CREATIVE MUSIC
FOR
CHILDREN

II



Courtesy of Good Housekeeping

Some where along the path of Music's development there lies an Instrument suited to the Capacity of every Child.

CREATIVE MUSIC FOR CHILDREN

A PLAN OF TRAINING BASED ON THE NATURAL EVOLUTION OF MUSIC

INCLUDING THE

MAKING AND PLAYING OF INSTRUMENTS

DANCING—SINGING—POETRY

BY

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WITH 48 ILLUSTRATIONS

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To

ALL THE BOYS AND GIRLS
WHO HAVE WORKED AND
PLAYED WITH ME

PREFACE

This book has been prepared especially for those mothers and teachers who have written to me for help in their work with young children. It is not for those who have geniuses to train—for genius makes demands and finds ways peculiarly its own—but for those who wish to give all children more vital, more fundamental, and more joyous experiences in their early musical training; for any who may be interested in the musical training of children, and for all those who wish to see music make a more effectual contribution to character building, home life, and society.

My first appeal to teachers in behalf of the child appeared in the *Musical Observer* for September, 1917. Two years later a monograph on "Primitive Music for Primitive People—a new view of music for children," gave a general statement of the principles underlying the work which forms the subject matter of this book. In June, 1920, two articles, one in *Musical America*, and one in

Good Housekeeping, were written by visitors to my studio, and these articles resulted in so many letters from mothers and teachers in all parts of the United States who were perplexed by problems similar to mine, that a book seemed the inevitable answer to them.

After my studio experiments had proved to me and to others that musical training in its broad sense, including the making and playing of instruments, was practicable, educative, and joy-giving in small groups of children, my next wish was to try out the plan with large classes to ascertain the practicability of bringing these stimulating activities into the lives of public school children. So in the autumn of 1919 I began an experiment in the Lincoln School of Teachers College, applying my studio experiment to large classes, and the results, so far, have been gratifying. A full report of this newer experiment will be given later for the benefit of those teachers who may be interested in the idea as applied to school conditions. The scope of this book, however, is confined to its application in the studio and in the home.

To Miss Emily Barnes I am indebted for the specific name of my work. After observing the

experiment in my studio and in the school, she thought the name "Creative Music" an appropriate one to cover all phases of the work in construction of Musical Instruments, Creation of Music and Poetry, Playing, Singing, and Dancing, and it is in this sense that I have used the term throughout the book. I am also indebted to Miss Lida Lee Tall and to Miss Helen Norfleet for suggestions in the revision of the manuscript.

I would add a word in appreciation of Mr. R. E. O'Neill's interpretation of the spirit of my work in the charming picture he has drawn for the lining of the book.

S. N. C.

NEW YORK,
September, 1921.

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CREATIVE MUSIC FOR CHILDREN

PART I

THE BACKGROUND

CHAPTER I

MUSIC LESSONS OR MUSICAL TRAINING?

THE human interest in music is as old as the race, and the use of it as a recreative and stimulative, as well as a soothing agent, antedates history. The Chinese, Hindus, and other oriental peoples long ago recognized its influence on the mind and on human conduct, and Confucius went so far as to claim that he could tell whether or not a nation was well governed merely by hearing its music. The ancient Greeks defined the different effects of different kinds of music, and recognizing its value in the education of their youth, gave it an important place in the school curriculum. But in the various upheavals through which our civilization has passed since then, music has been allowed to fall from its earlier high estate. Although the church has preserved its religious aspect and our own instincts have preserved its recreational meaning, we have, until recently, overlooked its educational value.

Just now we are groping our way to a better understanding of the significance of music in the training of the young, but we are still without conviction. We cannot ignore the fact that music is growing to be one of the strongest forces of our society, and as a people, we enjoy and encourage it. The shelves of our libraries are heavy with books about music and musical training, pleas for the propagation of good music, learned discussions of masterpieces and theories, popular treatises on music-appreciation, expositions of methods, and analyses of music,—scientific, spiritual and artistic. During the past decade the floodgates seem to have been opened and music of varying degrees of worth has deluged the public. Some of us have absorbed the good and the beautiful; some the unbeautiful; and many of us are wondering how this great force is to be controlled and its beneficent power conserved. We do know that it is toward the children that our efforts must be directed, but the minds of most of us are not quite clear as to how music may best contribute to the development of our children.

In these days nearly everyone believes in some kind of musical training, though occasionally one does find a parent who thinks it a useless waste of

time. However, when such an attitude is met, it is usually due to lack of information on matters of education, or it is the result of former unsatisfactory experiences. A mother once said, "I studied music for several years, but I have nothing to show for it and I cannot play a tune to-day. Why should my children repeat that waste of time and nervous energy? Life is too short"; and her inference was right. A disappointed father once said, "Yes, I am going to sell the piano. I spent thousands of dollars in order that my daughter should learn to play, and I had visions of sitting by the fire in the evenings while she played to me all those old things I love so well. But my money was wasted and my effort availed nothing. She never opens the piano, and when I ask her to play for me she says, 'I can't play a thing.' No more music lessons in my family." A nervous woman once said, "I cannot bear to hear the children practice. It makes me positively ill. Perhaps it is because I live over experiences in my own childhood. When I was a child I had lessons on the violin. It was very difficult for me, and my teacher used to get very cross and often gave me a sharp pencil-whack across my fingers when I didn't hold them properly or played the wrong note. My!

how it hurt! I can feel it yet! And somehow, since then, I have always *hated* violin music."

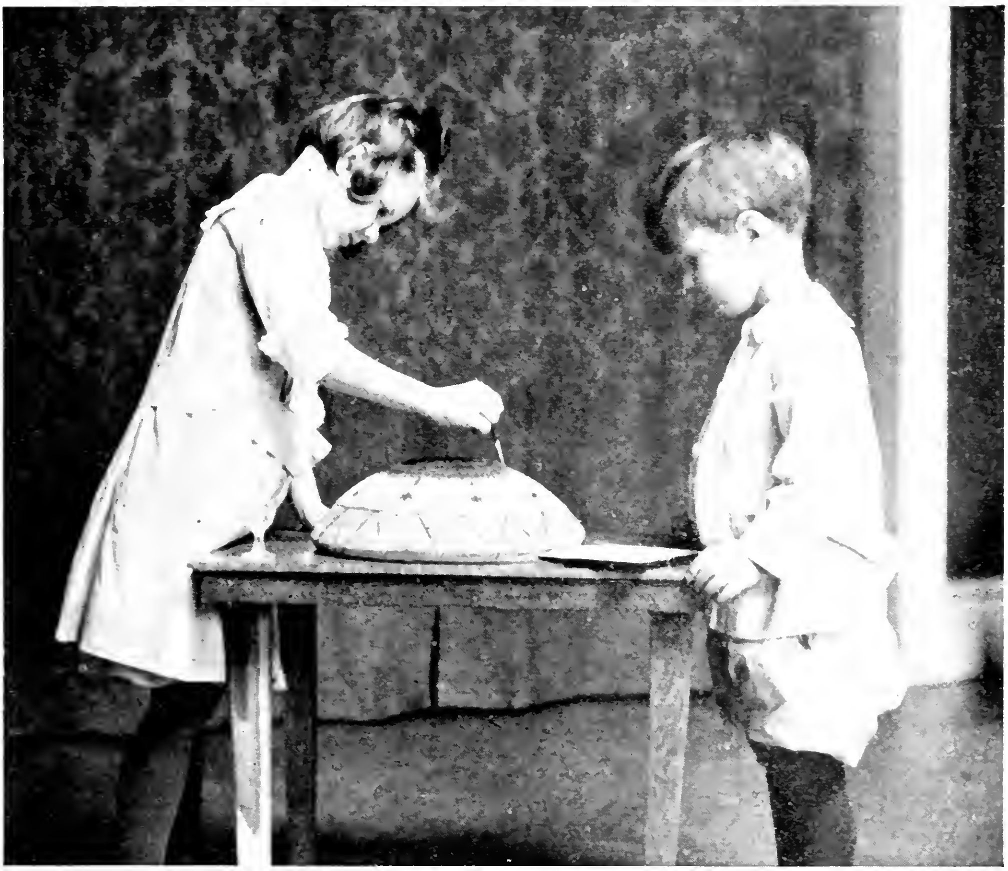
In spite of the discouraging effect of many experiences similar to these, there are few enlightened parents who do not try to give their children some form of musical training, and many think it important enough to make great sacrifices to that end. On the other hand, there are still those who look upon musical ability as a special gift, and think that none but the talented need pursue the study. I have been interested to note how widely parents' ideas differ as to the special gains to be derived from the study of music. Some parents, without any definite object in view, or without knowing why they wish it, just want their children to be able "to play." Some want to give them all the advantages the age provides, saying, perhaps, "I never had the chance when I was young; I want to give my children all those advantages that I missed." Some parents see in the study of music a mental stimulant; others a vocation and means of livelihood. In some cases the main thought is to keep the children busy after school hours, or to provide them with a pleasurable and harmless pastime and larger resources for self entertainment. To many, the final goal is "music appreciation"

and the ability to enjoy good music; and there are those who study music merely to broaden their appreciation of art in general. Some wish most for music in the home, for the enjoyment of family and friends, and some parents arrange for lessons merely to gratify the wish of the child. There are others who consider the greatest value of musical training to be its refining power in the cultivation of the emotions and tastes, while still others look to it mainly for help in muscular coördination and physical poise.

More of us than have realized it, perhaps, have been interested in music as an accomplishment—an ornament—something to make our children more attractive socially. It may have been the wish to make her daughters welcome in larger social circles and to give them a wider field for selection in the choice of husbands that led the mother of a few generations ago to urge musical training upon her daughters, rather than upon her sons, for the sons had more direct ways of attaining to marriage. Fifty years ago few American parents considered music lessons for the boy unless he showed unusual talent; but often great sacrifices were made that the daughter should be able to play a few "company pieces" at the piano. Unfortunate results have

come about from this general attitude towards musical training as an accomplishment—something to affect one's social life. But it is easy to see how this attitude has been encouraged, for on the face of it the ability to make music *is* an accomplishment that has, from earliest times, made one more welcome among his fellows; and it is right, of course, to encourage it from the pleasure-giving side.

The child very easily catches the spirit that moves his parents to give him lessons. His attitude towards music is established in the beginning of his musical education and it is very hard to change it. If he feels that his social popularity depends in any measure upon his musical ability, it is inevitable that jealousies shall arise; for it is only natural that he should wish to feel power over others, and therefore he resents whatever weakens that power, especially if it is a rival personality. The jealousies among singers and players in the social and professional world are well known and seem to me an inevitable result of the attitude we have held toward musical training. It has been so easy to use music as a means to gain the attention and applause of others; its very nature lends itself to the "showing off" propensity in children,



1. The Last Touches of the Tom-Tom's Decoration (after the Maker's Original Design)

and many adults, too, have no stronger motive behind their daily practice than the wish for public applause. The adulation of the individual artist in a public performance, rather than the pure enjoyment of the music itself, is an exaggerated result of this attitude, and the view of the audience, in its turn, feeds anew the perverted motive. It is much easier to let this tendency of music run along the open road of ego-gratification in our training than to guide it through paths of more wholesome development. But we must find those paths. For the desire to produce effects on other people is strong enough in us all to need no extra stimulation, and when the subtle power of music is thrown in that direction, the result is a disastrous over-balancing.

Musical training has extraordinary educational value, but so long as we are interested in music as an accomplishment only, and so long as the motivating power behind musical study is the wish to impress others, we shall never realize its greatest value.

But what about the outcome for that vast number of people whose purpose is not superficial ornamentation, but who wish their children to *be musical*, with all the wholesome results that come

from being so? Have we realized our hopes? Have we and our children had "music lessons" or musical training? And are we, as a people, musical?

To be musical is to feel and enjoy music—to have the impulse that results in habits of playing and improvisation—and to enjoy one's own music and that of others for the sake of the music itself. The Australian Bushman is musical. Travelers say that the Bushman sits alone for hours at a time listening to the sound of his *gora*, without being concerned about anything but the succession of tones which he brings out of it for his own pleasure. Most primitive peoples are musical, and the music employed by them is a necessity of life. The primitive people in our midst, the children, are musical in the beginning (more so than some of us think) but this tendency does not always survive their training, and perhaps no one will claim that "grown up" America is truly musical. The negroes in the South are (or were) musical. They came from Africa with rich, musical voices, a natural capacity for melody and harmony and a tendency to musical production. Out of their natural gifts has come the most beautiful folk-song literature America has. The sorrows that civili-

zation has forced upon the negro in removing him from his African home have doubtless had a part in the development of his music, but it is certainly not the result of any training that our civilization has given him.

We believe that we love music, but as a rule we do not love it enough to take the trouble to make it, and most of our home music at present is "reproduced" and not "home-made." Do we, as families, love to gather together in the evenings and sing and play, as really musical peoples do? (I wonder if many of us realize just how far that custom goes toward making children musical?) Compare our habits with those of musical European countries. Do our young people show enthusiasm over singing clubs and musical gatherings? Do we, after all our training, appreciate and encourage the best music? Has our training given us all a taste for truly beautiful music? Does it "harmonize the souls" of those who pursue it, as the Greeks found it did, and does it make us kinder and more just in our relations to others? And does it, as the ancient Chinese believed, bring us poise and self control? Has the study of music proved a good investment of time and money? Does it really bring us happiness and content? We have reason to expect

all these things in some measure, and if we have been disappointed, if we are not musical, never "know anything to play," if "bought" music is the only kind that thrives, if we grow nervous and irritable in the study of it, and envy someone who plays or sings better; if it has not helped us to recognize and enjoy beauty or to express some form of beauty that is within us, if it has not helped to make our lives move in better adjustment to the "rhythmic beat of Nature,"—the fault lies not in the art, but in the use that we and those before us have made of it.

CHAPTER II

EARLY HERESIES OF THE WRITER

Former Innovations Concerning Notation, Singing, and Dancing

If we feel a lack in what music has done for us, there are probably two main causes for that lack. Our musical training in the past and present is, of the two, the more responsible, and may even lie at the root of that other contributing cause,—our customs and attitude, as a people, toward music.

My feeling that something was wrong in the way music was taught—to me, at least—really began at the age of eight. I vividly remember the day I was to have my first music lesson, my eager anticipation and thrills of joy to think I was going to learn to play the piano! Soon I would understand that mysterious array of black and white keys, and be able to manipulate them in a "really truly" tune! At last the hour came and I sat on the piano stool and the teacher sat beside me. Then she

opened a book and put it in front of me. The page did not read: "Put your finger on this key and play *Yankee Doodle*," as I half expected, but instead, there was a picture like a fence, with many black spots on it. She said it was a staff, and began telling me various things about it. My interest in this staff was only momentary, and then I went back to the thing I had come for. "I want to learn to play," I ventured. "All right, my dear; this is the way to learn to play. You must first learn to read these notes, and then you can play them on the piano." Then followed explanations and drill on the letter names. "When the note is in this place, you must strike this key," and by going through a most intricate mental process, the teacher allowed me to strike an occasional key.

But where was the tune? And what did the lines and spots in the book have to do with music, anyway? I wanted to play the piano, not study queer marks in a book. My fingers ached to make a tune that sounded "pretty," or to play some of the little songs I already knew how to sing; but she would neither show me how nor let me try. The disappointment was bitter. But my longing to play was so great that I was willing to pay any price, so I accepted the terms—hard though they

were—and finally learned the notes. I remember being greatly discouraged and nervous over the complicated feat of trying to hold my hands in the right position, decipher the note's place on the staff, figure out its time value and strike the right key, all at the same time; and when it came to managing two hands and puzzling over two staffs at the same time, it was indeed a trial! My only incentive and comfort lay in the hope that, finally, music would come out of all this mental strain and nervous tension.

After a time I found great pleasure in picking out tunes by ear and harmonizing them to suit my own fancy, but that was soon prohibited. My teacher gave directions that I was not to be allowed to "play by ear" at all, as it would ruin my note playing, and her instructions were carried out. I felt the deprivation very keenly, but it chanced that after the first year, my lessons were discontinued for a few years, and I was free to do as I liked at the piano. So I played by ear and improvised to my heart's content; read notes, too, and grew, all unaided, in musical feeling and understanding.

In after years it was the memory of my childish disappointment and instinctive feeling that led me to try the plan of teaching children to play the

piano by ear—entirely without notation. The memory of how I had naturally improvised, and an analysis of my childish mental operations in harmonizing melodies, were my guides in teaching improvisation at the piano.

Ten years ago my experiments with children had already proved that they could be taught to play the piano without the help of printed notes, and that they loved to do it. It all seemed so natural and reasonable. Does not a child learn to speak his language before he learns to read it, and shall he not say musical things, with his fingers as well as with his voice, before he reads them? Herbert Spencer reminded us years ago that the *thing* should be taught before the *symbol* of it—that experience should come before knowledge—but we have been slow to realize how ruthlessly we have broken that educational principle in our music teaching. We have overlooked the original and true purpose of notation, and have confused the symbol with the thing symbolized. It was a true instinct that made me, as a child, feel disappointment in my teacher, perhaps as much as if she had told me a picture of my mother was the real mother.

It is not surprising that so many children hate



2. A Glass Player of 3½ Years (Birch-Bark Drum in Corner)

their music lessons. The thing that interests them is the playing—the sounds they make. If that activity is blocked by something of no interest in itself they quite naturally become bored; if coercion is used in note reading routine, they usually come to hate it; and since this mountain of difficulty lies between them and the thing they want, they give it up as being undesirable at that price. I believe it is a great mistake to deal with music in a disciplinary manner, forcing children to practice. Music is going to affect us emotionally. The delicately organized child will not be indifferent to it—he will either love it or hate it—and forcing him into it without his wish will either make him hate it, or make him irritable towards those who urge it.

Many children, enthusiastic at first, lose their ardor in the dreary process of learning to read notes, and give it up before they ever taste the joys of real musical expression. Many others, more persevering, settle down to cold mechanical playing because the natural feeling cannot break through the wall of conscious technicalities which their training involves. The opportunity for free expression must be given, and the habit cultivated from the very first, unfettered by new or complicated

processes, mental or physical, if one is ever to realize the meaning of free musical expression. Few habits are harder to break than that of constraint.

"One mental process at a time," says the modern educator. When we think of the mental processes and simultaneous muscular feats required in teaching the use of an unfamiliar keyboard or group of strings by means of an unfamiliar system of signs, manipulated by unpracticed and uncoördinated muscles, we are appalled! (Let a "grown-up" who knows neither notation nor the use of an instrument, try it with either violin or piano.) The wonder is that any children survive with a love for music. And perhaps none would, were it not for the great inborn desire to make music. This is merely a proof of the power of music over us, and the greatness of the human need and longing for musical expression.

One modern educator (M. E. Boole in *Preparation of the Child for Science*) says: "I believe that hardly any mistake in education is more disturbing to normal brain action, more likely to induce nerve-storms in delicate children, or more dangerous to future brain power in all children, than the attempt to convey a new idea by means of

a process still artificial (*i. e.*, inadequately coördinated) or to teach a new process by means of an idea still unfamiliar." The observation of children becoming nervous and irritable at the piano or violin probably lies within the experience of most of us. "When the process of learning by the more direct means has become so familiar as to be performed sub-consciously," then and only then should the more complicated processes begin.

Another educator (H. S. Jennings, in his *Biology of Children in Relation to Education*) states that, "Training is even harmful when it comes earlier than the development of the power which it tries to train; it must then be classed with the blights which cut off the development of the powers. . . . This driving of the powers too far leads to most serious difficulties—nervousness, twitching of the face, etc. Strain makes men hate their work."

How, then, are we to eliminate this strain in the child's playing? How can we teach him to play without note reading?

He learns to speak his mother tongue by rote, or imitation; he learns to sing by rote; birds teach their little ones to sing by rote; all young animals learn by imitation; why shouldn't the child's first

playing be by rote? Why not deliberately employ the child's natural way of learning until the physical process becomes easy? Very soon, as his ear and his mentality develop, he can follow a more intellectual process and play by ear.

But playing a melody by ear presupposes that the child knows the melody. Therefore before a child can play by ear, he must first sing. The only way he can really possess a melody is by singing it, and his singing may begin as soon as he begins to talk, or even before. There is no strain in a child's learning to sing songs that are suited to his age.

From the beginning, he must sing and play rhythmically. But to do so, he must *feel* the rhythm of what he is playing, and the feeling for rhythm must come through the body. Reasoning thus, I saw the necessity of adopting dancing also as a part of the child's musical training, for rhythmical playing depends upon bodily response to rhythm. Some form of dancing it must be, not æsthetic or social dancing, but something suited to his age and development; something that will cultivate his rhythmic sense at his own level, and make him free to express it. Most folk dances are too difficult for very small children, but some of

the simple dances of primitive peoples give excellent material for these little folks.

Some singing, some dancing, and some playing, seemed to me to be the proper formula for a child's music lesson; but for very young children (I had some pupils of three and four years of age) it was singing and dancing only, for my cue in the instrumental phase of the work was to wait until the child wanted to play, and voluntarily sought that means of expression.

The results were very gratifying. Children who had been baffled by the printed page found it easy and delightful to play the piano by rote and by ear, and to improvise, with nothing but the keyboard to think of. Children who had never sung in their lives, delighted in singing folk songs and improvising little songs of their own, and they all reveled in the rollicking dances of childish primitive peoples.

And what about notation? I gave it to them when, out of their own experience, they realized a need for learning to read notes, wanted it, and asked for it. Then it was easy.

After a time, however, a problem arose: A few children wanted to play whose hands were too small and too weak to get any real satisfaction at the

piano. They wanted to play real tunes and yet their fingers were not ready for it. For a long time I had believed that children did not *seek* knowledge or any kind of training until they were mentally and physically ready for it, but here were some apparent exceptions. Why did these children have the impulse to play and insist on playing before they could manipulate one finger without all the others getting in the way? Drums and other time-beating instruments which they had used did not answer—they wanted to play *tunes.* I was greatly puzzled.

CHAPTER III

THE STORY OF AN IDEA

The solution of my problem came most unexpectedly. At the suggestion of friends, I give below an exact account of the train of thought which led to that solution.

One morning in the midst of spring house-cleaning, I dropped into a chair to rest for a moment and gather strength for a fresh attack. Things were piled about the room, and within reach of my hand was one of those long old-fashioned minstrel banjos, leaning against a chair. I lifted it to my lap and idly twanged the strings. There is something very appealing in the sound of gut strings stretched over parchment—something at once a lament and happy abandon—and when one can add to that sound a few childhood memories of Old Uncle Joe and the other darkies on Saturday evenings in a sunnier clime than this, the banjo claims a place of affectionate regard.

The monotonous chords soon worked a charm

and I was surprised to see how quickly my aching fatigue disappeared. It had been quite a common habit for me to "rest myself" from physical fatigue by playing the piano, but I had never experienced such a quick restoration as this. "What is it in this instrument," I wondered, "that gives it so much power? Is it the peculiar tone quality, or what is it?"

Its magic was well known to Old Uncle Joe:

"Run yonder, honey, and shoo dem chickens outen de do', fo' dey gits into Melindy's clabber! I'se dat tired I couldn't budge offen dis bench ef de house wuz on fiah; dat I couldn't. Deze ole laigs is followed dat mule and de plow near 'bout twenty mile to-day, and him de beatenes' mule, de contraries' mule in de whole creation! Dat he is. No, honey, I aint gwine a' move from here, dat I ain't."

And all the time he was ringing out a pinky-panky banjo accompaniment to his excuses. Soon his banjo was "warmed up," as he called it, and in less than five minutes he was "kickin' de backstep" and "cuttin' de pigeon wing" to his own banjo playing—a feat which must be attempted before one can realize the physical exertion it requires. No wonder the darkey loves his banjo if the twang-



3. A Three-Note Marimba Played by its Maker

ing of its strings can so quickly "spirit" away the leg-heaviness that comes from following a contrary mule all day!

"What is it," I questioned, "in this instrument that strikes so deeply and clings so tenaciously to the very roots of his nature? And why is it that, as I sit here stroking these strings, I am even more soothed than by piano playing, though I play the piano better, and have played it many years longer? Perhaps my position has something to do with it? No, my piano chair is just as comfortable as this, and my left arm is less relaxed than it is at the piano, so it can't be my position. Neither can this lively tune be responsible. Can it be the fact that I am holding the instrument so close to my body that my nerves take up the vibrations more perfectly, having contact with the vibrating instrument at the waist, both thighs and wrists and the fingers, as well as the sound waves through the ear? Surely that must have something to do with it. Then, there must be a difference between striking a string indirectly by means of a hammer, and striking it directly with your fingers. To feel with your fingers, a string vibrating in response to your own physical touch, gives a far greater pleasure than the use of a mechanism ever so perfectly

devised for striking strings. You have produced a tone that is more truly your own. And so it seems to me that one who plucks the strings with one's fingers, will feel a closer intimacy with the instrument than one whose stroke must pass through a series of mechanical devices before the sound is made.

"That's it! It's the *intimacy* of the thing! No keys, no hammers, sockets, or pins. Only the string, my fingers, and a resonating body beneath them! A direct touch and an instantaneous response! If that is the secret, then the banjo is not the only instrument that has the magic charm.

"Ah, yes, I have another childhood memory of how my older brother used to sit and play his guitar by the hour in the evening 'just resting himself' after working hard on the farm all day. He didn't know much about it—had picked up a few chords, a Spanish Fandango and one or two other little things—and not until this moment have I ever appreciated his point of view when he declined to study piano, for he loved the piano, and I had implored him to let me teach him what I knew. But he remained content to play his small guitar repertoire over and over again every evening. In those days I rather pitied his poor musical taste,

and felt that he did not really appreciate my revered instrument nor his opportunity to learn it. But now I see that his taste was wholesome and natural, and I respect his judgment in adopting an instrument that gave him the greatest return for the time he had to spend upon it."

Then there came to my mind the picture of the Austrian peasant who sits by the fire in the evening and plays his zither—another simple instrument with no mechanism between the strings and the player. Nearly every mountain peasant has some form of zither in his home, and can play it. "Perhaps," I thought, "that is why the Austrians are a more musical people than we are—because their peasants have instruments that are simple enough for everybody in the family to play without having to 'take lessons.' For that matter, most European peoples have some sort of simple stringed instrument for the leisure hours of the 'landfolk'; an instrument cheap enough for every family to own one, and simple enough for anyone in the family to play by ear, if he only has a little patience.

"What is our 'simple strings' for the land folk? The negro with his banjo is the only answer I know. When we came over (for we all came over from somewhere) did we leave all our peasant instru-

ments behind? And are the negroes more musical than the rest of us Americans because they and their African ancestors have made a freer use of simple instruments?

"The simplest form of zither has no frets, and a separate string for each note, even simpler than the guitar or banjo; no wonder the peasants of Austria and other European countries could play their simple folk songs so easily upon it. No doubt many children started picking out tunes so early that they scarcely remember when or how they learned to play. There's an idea! I will let my little folks play the zither! Several of them whose hands are too small and too weak for the piano are longing to make music of some kind with their hands, and they really could pluck, one at a time, the strings of the zither.

"Plucked strings and a string for each note, lying flat on a table or in the lap. Why haven't I thought of it before? Could any instrument be simpler for children to play? Yes, there was the Greek lyre, perhaps the simplest of all forms of plucked strings. The logical thing would be for me to start my children with the lyre! If I could only get one! But alas! there are none to be had. Why, I'll *make* one and let my little ones play on

that! First of all, the lyre, the simplest form of all stringed instruments! But wait! Even that is not the beginning!"

Then, as in a vision, a complete picture flashed before me, and I saw my little pupils going back for their first music not to the Greeks, but much, much further back, even to primitive man and the early savages. "They shall build up their own art and experience the development of music from the beginning," I said to myself. "Being little savages, they can understand savage music. I shall find the child's own savage level, and lift him gradually up to higher forms; and he shall understand each stage as he reaches it, for his power will grow with it, and his work will always be at his own level. The natural evolution of music shall be my guide in leading the child from the simple to the complex; and we, with guidance, may probably often discover and cover in one lesson things that required generations for man, without guidance, to learn.

"Primitive man made his own instruments, and so shall we make many of ours, too! How children will love making them! And of course any child will love to play on an instrument he has made!

"We shall study and make all types of instru-

ments—wind, string, percussion, and what not! Everything that a primitive savage can do in music, children can do. They shall find out how the art of music was evolved and by their own creative work they shall experience its most important stages. How can it fail to cultivate the musical instinct, and build up musical power and understanding! Why have we all this time been trying to bridge over this enormous field of music? And such a beautiful and interesting field it is, too!

"Beginning at the drum stage, my children shall be little savages who know nothing of music, and they shall dance primitive dances and beat upon rude drums and shake rude rattles until they discover some way of making tone. Song, too, we will follow from the simplest beginnings through the course of its evolution, and correlate our singing with our playing. My little savages shall play their simple tunes upon pipes of Pan until they find out the principle of the flute; they shall play upon the resonanceless shoulder harps of the Egyptians until they discover how resonance can be obtained for strings; they shall play upon bells and gongs and musical stones and strips of wood, and blow horns and bugles. They shall play upon the lyre and primitive harp until

they discover how one string can be made to play more than one note; they shall make and play upon primitive fiddles and lutes and banjos! Their singing and dancing and playing shall evolve together, until finally they are able to select the instruments that appeal most to them, and each child will then give special attention to his chosen instrument. Perhaps it will not be the piano at all!

"How ridiculous it now seems that all these years we have been confronting a child with the most complicated instrument man has yet evolved, and have expected him to use it, without giving him any of the steps that lead up to it! And how unjust that the verdict of 'unmusical' has been passed upon so many children unable to cope with this difficult medium! Many of the musical giants of Europe lived before the piano even existed! And I know that most of those great ones played every instrument that was used in their time. The art of music is as old as mankind itself! And yet in our day we have, as a rule, begun our instrumental instruction with an instrument invented in the eighteenth century, or else with the violin, the most difficult of all modern instruments! Is it any wonder that we have failed to

make of ourselves a really musical people? That we have failed to strike 'rock bottom' with our training? All the Symphony concerts and musical lectures and lessons in the world cannot take the place of development in the foundational principles of music and living experiences in them. How sad it seems that all this rich field of musical instruments and their development should have been of interest heretofore only to collectors and history students! What an opportunity the educator has lost! To the musical educator more than to anyone else these things have a message of vital importance. If a child *lives* the art of music from its primitive beginnings, makes his own instruments and plays upon them, and discovers for himself each stage in the development of musical instruments, how can he help being musical?"

An undertaking was before me: To bring the whole history of music within reach of the child, and make it practicable for him to live through it; to concentrate, eliminate, and simplify; to find out how to make and how to use all these instruments; and to arrange a course suited for children's hands and minds that would give them the actual experiences of developing a complete art of music in a way that would awaken and refine their musical



4. Ready for the March (Tom-Tom and Tabor)

powers and taste and still not consume too much time out of the full curriculum of the modern child's life. Before me were endless study and research, experiments with children in the field of primitive music and in music's later development, trying out, sifting, testing, exploring my own way through an untried forest of hundreds, yea, thousands of years' growth, guided only by a strong belief that here lay the material that would satisfy the child's natural craving to make music, that would give him great happiness and at the same time develop his musical sense and his musical understanding from the very foundations,—through his own personal experience. Furthermore, I believed that his whole life would be vastly enriched, that his intelligence in other lines would be brought into use and woven into this; that the elemental forces of his nature would be so exercised in investigation and experiment, and in creative work of both hands and mind, that his character and entire personality and mental habits would be developed and strengthened, and the musical returns would be only a small part of his gain.

Stimulated by the vision of all this for children, the undertaking—however great the problem and however arduous the task—seemed worth trying.

The research and experiments that followed have finally resulted in a definite plan for foundational work in music for children. It is my purpose to give in the following pages a résumé of a three years' experiment in my studio, with as much detail as the size of this volume will allow.

PART II

THE CREATIVE MUSIC EXPERIMENT

INTRODUCTION

The experiment proper began in October, 1918, after a summer of preliminary experiments with several children from three to six years of age. Previous to that, I had worked my way alone through the constructive side of the plan as outlined in the preceding pages. Two children, one five and a half, and the other seven and a half years of age, were the first to begin the process of study according to my new plan, but others of ages varying from three to nine years were soon included. The lesson period was one hour. Some of the children came four times a week and others twice a week. After the first year, Saturday class lessons were organized to give them greater opportunities in ensemble work.

For convenience in relating the story of my experiment I shall divide the work into its several parts, devoting different chapters to different activities; but it must be borne in mind that all of these phases were developed simultaneously and

were closely correlated. So far as was practicable, each lesson touched upon every phase of the work, though sometimes a child would spend the entire hour on one thing, unwilling to leave it, especially if he were making an instrument. The younger the child, the greater was the variety of activities employed in his lesson, not only because he had so much to learn, but also because he was less able to concentrate steadily on any one thing. But since he had to sing and dance, make instruments and play them, acquire other knowledge related to these things, form habits and develop skill in many lines, one hour seemed all too short, even for the very young child, and it usually passed before either he or I realized it.

In a logical outline, giving my work in the order of its presentation to children, dancing and singing would be placed first. Those phases of musical training, however, have been ably developed by others, and in this work the greatest experimental aspect of those phases is the correlation of them with other phases of musical training. In relating the story of my experiment I am giving first that part which is more truly an experiment in the sense that it is an exploration in an untried field.

CHAPTER IV

HOW THE CHILDREN MADE THEIR INSTRUMENTS

The description of that phase of the work which has to do with the construction and use of instruments must also be divided, for the sake of easier presentation, into the three general sections, percussion, wind, and stringed instruments. Here again it must not be inferred that we finished one type before taking up another. I tried out instruments in various orders with different children, because I believed that the child's age and natural musical tendencies should be important considerations in selecting the order of his instruments. For example, although we used percussion instruments first of all, as primitive peoples do, nearly all my younger pupils used very simple stringed instruments at the same time they were playing on those of the percussion type, and before they had been introduced to wind instruments at all. Simplicity was the main factor in arranging the order for the child rather than a list of types,

or the historical sequence of development. All of my pupils continued to use percussion instruments after they were playing both wind and stringed instruments, and the three types were not isolated one from the other.

When children came to me too young to be interested in the "whys" of things and too young to handle tools in the making of instruments, I made no attempt to have them follow the experiments here outlined, which were carried out by children from five to nine years of age. The younger children played upon all the instruments in the order of their degree of difficulty without any thought of how they were made—merely acquiring musical experiences—and later took up the making of them.

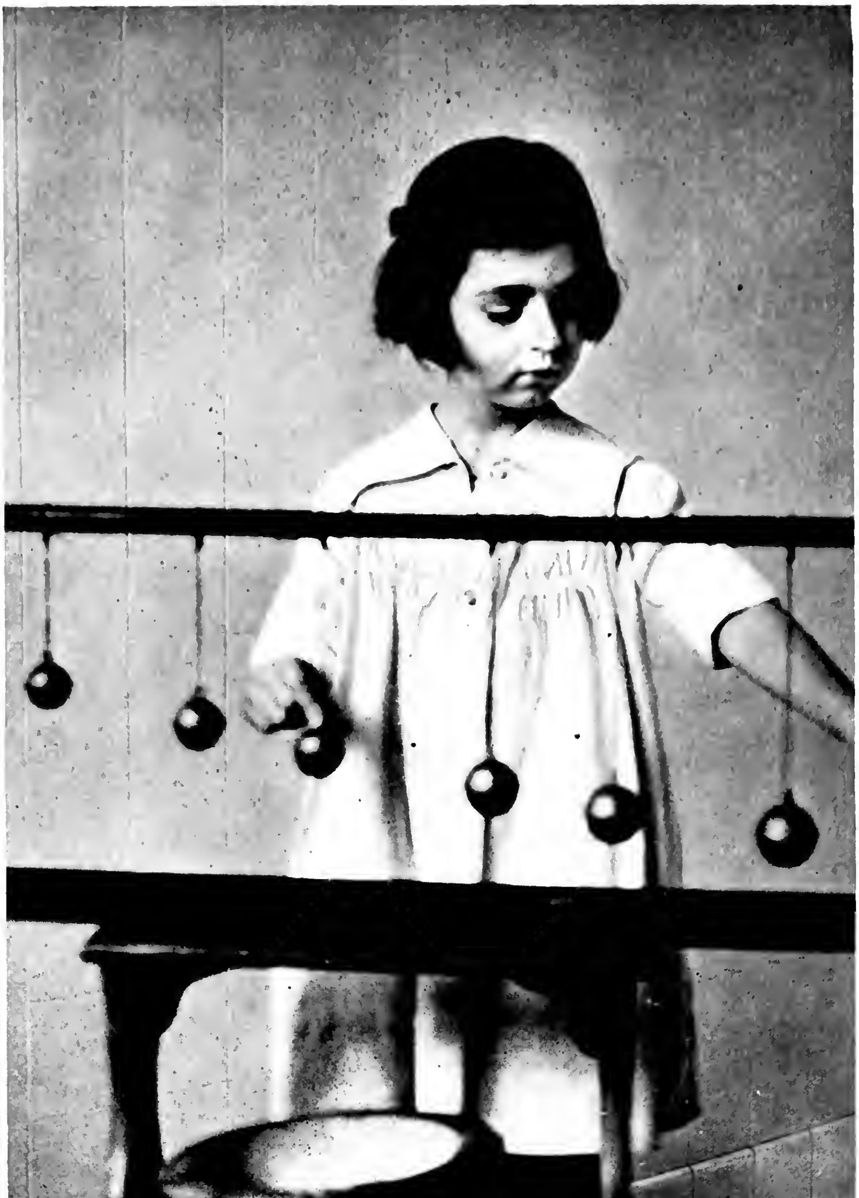
PERCUSSION INSTRUMENTS

The Drum Stage.—Since all children, whether they seem to be musical or not, love to beat something and make a noise, this tendency presented itself as one means of developing the rhythmic sense. After having the child use his hands and feet in the making of rhythmic sounds, my next step was to stimulate his curiosity about the kinds

of sounds that were produced when different surfaces were struck, leading from flat surfaces to the resonant sound of concave and hollow bodies. I had procured for my studio an imitation hollow stump made from a tree section (see Fig. 5) and a hollow log, and the children were interested in the sound produced by striking these. As drums were already within their experience, they naturally thought of drums, and each child wanted one. The suggestion that they might be able to make drums was received with delight, and no stimulation of interest was needed. The discussion of what we would use to make them, and how we would make them, aroused their curiosity and led to the investigation of what primitive and other people had used to make drums, and what available material there was for us. Pictures and a trip to the museum gave them definite ideas. We found that many things could be used of which we had never thought in this connection. One child made a *kettle-drum* from a chopping bowl, another from a cocoanut shell; a spice box proved the right size for a *tabor*, which is really a small drum. We used gourds, butter tubs, and even stone bowls from the kitchen. Very pretty *barrel drums* were made from birch bark, and also from kegs. Our greatest

problem was to find the vibrating membrane to stretch across the body of the drum. At first we procured pieces of real drum skin from a music store, but we found that we could make cloth answer very well by using aviator's linen, covered with a coat of shellac. The children were very impatient to use their new drums, and could hardly wait until they were finished. They used them in beating song and dance rhythms, in echoing the rhythms of melodies played by others, and in improvising rhythms. They were interested in the drum codes of savages, and made drum codes of their own.

A wooden pencil box with a marble in it brought forth the suggestion that a kind of drum could be made with the noise produced inside. We found some gourds with long handles, and by putting a few hard pebbles inside them and closing them up again, we made some very fine *rattles*. The children used these rattles for rhythms by shaking them. The spice box, which one child had used to make a tabor, had a cover with a rim about an inch wide. A little boy found this cover which had been discarded, and the circular rim offered such tempting possibilities that he soon conceived the idea of making a *tambourine*. All it needed was a wet



5. A Sleigh-bell Melody, (Hollow Stump Drum Below)

sheep skin stretched across the rim and fastened all around with thumb tacks. Just for fun, he tied a few tiny sleigh bells to the rim to make a metallic sound like the real tambourine.

By this time the children had had some experience in tone as well as rhythm, and had evolved the beginnings of melody in their singing, so they were ready for tone experiences in their playing. I told them about the musical stones of the ancient Chinese, and they tried to find sound in stone. The nearest approach to musical stones which I could find was a resonant piece of metal, so we next investigated the sound of metal when struck. Three *metal bars*, which I had previously had made for me—tuned to whole step intervals—constituted our first real instrument with definite tone, and had all the scope that was required to play the primitive three-note songs which they had by this time learned to sing. (Some of these songs will be found in Chapter VII.)

The musical quality of the metal suggested *bells* to the minds of the children, and this led to experiments with all the bells we could find. We inquired into the reasons for the different tones of different bells and drew conclusions as to the effect of their size on the sound of bells, and also as to the tonal

effect of length in the case of the metal bars. We found in our varied collection three bells whose tones were a whole step apart, and on these they also played the three-note songs they knew. We discussed bells and church chimes and I told them a few bell stories. Someone thought of *sleigh bells* and they were produced and examined. I had a bell-maker make for me a set of sleigh bells tuned to the diatonic scale and also a set of *Swiss bells* without clappers. At this stage we could use the first three notes of each set. We discussed the difference in the way the tone was produced in the three metal instruments—bars, Swiss bells, and sleigh bells. I found in a music store a Turkish *tubaphone*, which was also of great interest as showing another way in which metal could be used to make tones, and the children played their melodies on this new instrument.

It was at about this stage that one of the children brought me a musical instrument of her own invention. It consisted of three *silver spoons* of different sizes, suspended with strings from a wooden rod; by striking them, she played a melody.

The children were now singing songs that involved the pentatonic scale, sometimes called the Chinese scale. I had a set of accurately tuned

Chinese gongs made and arranged on a rod so the children could play the pentatonic melodies they knew. I had foreseen that they would wish to play their different instruments together, so the metal instruments were all pitched in the same key.

The children use soft rubber hammers to play all of the above instruments (except the sleigh bells, which have to be shaken). This requires no finger action, but a free movement of the entire arm, which can easily be controlled by a small child.

Marimba.—Following the experiments with metal tones, the children developed a wooden instrument of the marimba type. They were led to discover that wood could be made to yield tone, and that different pieces of wood differed in tone quality and pitch. Experiments followed, showing that the tone of a piece of wood was affected both by its length and by its thickness, and with a little sawdust the children found the nodal points of the bars of wood. These discoveries enabled them to plan a definite instrument of three notes, to tune the wooden bars in unison with the metal bars, and to set this new instrument up in proper form to use in our gradually enlarging orchestra. With a little wooden hammer each child played a three-note melody on the instrument he had made. To have

made an instrument producing different tones—one on which he could play a real tune, and one he could use in our orchestra—seemed too good to be true! The scope of the instrument made by each child varied according to his age and development. The youngest children made those of three notes, and some of the older ones extended the scale to six, eight, and twelve notes.

Glasses.—One day we were experimenting with the tones of different objects by striking everything we could find. We discovered that some drinking glasses gave clear, bell-like sounds. We also found by experiment that we could alter the tones of these by putting water in the glasses. This gave us an idea. We took three ordinary drinking glasses, put different quantities of water in them, and by regulating the amount of water, found that we could tune them to our three-note scale and, by merely striking the side of the glass with a pencil or stick, we could play our three-note melodies on them. We found that the glasses sounded better when they rested on thick cloth instead of directly on the wood of the table, and the children also decided that they liked the tone of the glass better when the striking hammer was either made of very soft pine or covered with felt. They were very en-

thusiastic over the glasses and soon had a set of five tuned to the pentatonic scale, and were playing their pentatonic melodies on them. Later they tuned a glass for the fourth step of the diatonic scale (which they were now using in their songs) and found endless delight in playing their little folk-song melodies on this six-note glass instrument.

The six glasses looked very much alike. It would be easier for us, we thought, if we could find some way of distinguishing them quickly as we played, so we decided to mark the first and the fourth glass, making number one red and number four blue by putting red and blue ink in the water. (This was suggested to me by the coloring of harp strings, the *c's* being red and the *f's* blue.) This coloring gave the glasses another attraction, especially for very young children.

The silvery tinkle of the glasses when struck with felt-covered hammers is indeed most pleasing to the ear. For more than three years they have been in daily use in my studio, and without exception, the children of all ages have loved them. Since the tonal capacity of a glass is only a few notes, one is limited to a small range unless the glasses themselves, without water, differ greatly in tone, and for that reason I had much difficulty in obtain-

ing a wide range of pitch in my glasses. But by long continued searching in the stores, I was able to arrange a set of three octaves.

I found the glasses especially well suited to our first ensemble efforts, for when two or more sets were tuned alike, there was not much difference of tone quality to disturb the children. Later they played "trios" in the three different octaves without any difficulty, and after that it was easy to combine the different instruments, bells, bars, glasses, drums, and marimbas.

The experiments in the studio seemed to stimulate the children to make investigations of their own accord, and they often brought to me instruments of their own contriving. One day, after the children had learned to play on the glasses, a tiny boy of five urged me to go to his house and see an instrument he had made. I went home with him and he proudly exhibited three large *bottles of water* (any one of which was too heavy for him to bring to the studio), which he had tuned fairly well, and beaming with pleasure, he played the *Bear Song* for me. He had not only made the instrument, but the idea too was his own (so far as *he* was concerned).

Vibrating Rods.—We had in the studio a set of



6. Chinese Gongs

small metal rods of different lengths, fitted at one end into a metal stand. When these rods were struck with a small wooden hammer, their vibrations made pleasing musical sounds that varied in pitch according to the length of the rod. As these rods had been tuned to diatonic scale intervals, they constituted for the children another instrument for the playing of their simple folk songs.

One day Florence brought to me with great pride a musical instrument of her own discovery which was neither a wind, stringed, nor percussion instrument. It was a large thorny cactus plant which grew in a pot in her mother's window. She had discovered that the long thorns on it would vibrate and make musical sounds when she flipped them; also that their tones were not all alike. By carefully trying them out she had found three thorns that approximated the first three tones of the scale and she proudly played for me a real melody on the cactus plant! What better proof that the world—even the barren western prairie—is rich in musical possibilities if we only have eyes to see and ears to hear!

WIND INSTRUMENTS

In the beginning of my research, the subject of wind instruments for children had presented a

baffling front. Tin horns and penny whistles seemed at first to be the only available material suited to their use. I had thought of willow whistles, such as my brothers used to make, but they were practicable only in the springtime. What I most wanted was a reed that children could use to make pipes of Pan. Bamboo canes, such as are used for fishing rods, occurred to me, but I found the openings so small and the reeds so hard to cut that the bamboo seemed hardly practicable for children. So day after day I searched the woods and lowlands. I found a tall jointed rush that gave a clear note when one blew across it, but the rushes shriveled quickly and were useless in a few days after pulling them. All hollow grasses seemed quite unsuited. I tried elder branches but the pith was too hard to get out. Corn stalks, wheat straw, sorghum, all had their disadvantages. Finally my search was rewarded, and I found a reed that Pan himself could not have improved upon. The plant is called the Japanese fleece flower, and will grow in both dry and damp places. The shrub comes up in the spring and by late summer the stems are full grown, and hollow, except at the joints. They vary from the tiniest tubes to an inch and a half in diameter. They are

easily cut, both when green and dry, and if perfectly dry when tuned, they will stay in approximate tune for years. The finding of this plant was the solution of more than one problem. I discovered that many kinds of wind instruments could be made of it, not only pipes of Pan, but trumpets, shepherd's pipes, flutes, clarinets, tches, and neys.

Pipes of Pan.—Those children who took up the study of wind instruments in the fall went with me to see the plants and to cut the dried stems from where they had grown. We cut the reed into pieces, leaving a joint at one end of each piece. The children discovered how a tone could be made (by blowing directly across the open end), and they also found by experiment that the tone of the pipe was affected by its length, but not very much by its diameter. So they cut long pipes for the low tones and shorter ones for the higher tones, and did not stop until each child had tuned a set of three pipes. Then they marched proudly home, piping *Hot Cross Buns* all the way.

Throughout the work I have given the children stories and musical legends at the time when their own experiences were in some way similar to those in the story. At this time the story of Pan and the first musical pipes was vivid and real to them.

After having learned how to tune the pipes to three tones, it was, of course, easy for them to enlarge their instrument by adding other tones of the scale, according to the range of the songs which they could play. One day a child discovered that water in a pipe had the same effect as making the pipe shorter. This led to trying other experiments, and the children found that one could easily tune the pipes or raise the pitch by putting sand or rice in them. They were interested to know that some savages had tuned their pipes with dried peas. For convenience in holding the pipes, we tied them together (see Fig. 9), and in blowing, I had the children hold them with the lowest note to the left. In fact, all their instruments were arranged in that position so that later when they should reach modern instruments with keyboards, their sense of the lateral direction of low and high notes would be already established. I have been interested to observe that as a rule children seem to get a tone from the pipes of Pan more easily than adults who have never blown an instrument.

Just as they had experimented before by striking things, the children now tried blowing everything that could be blown at all, and their experiments revealed many facts. They blew across bottles

and found that the tone of a bottle as a wind instrument could be changed by putting water in it; so they made a set of "*bottle pipes of Pan*" and played upon it. It was interesting to discover that water in the bottle lowered the tone produced by percussion, but raised the tone produced by blowing. The older children were very curious about the reason for this. They loved the deep tone that came from blowing across the mouth of a *jug*, and they experimented with jugs of different sizes. Even the *clock key* was found to possess a musical tone, and the long *valve cup* of an automobile tire was a very good pipe of Pan.

Trumpets.—It was easy to blow things that were open at only one end, but what about reeds and other things that were open at *both* ends? Was there any way to get music out of them? We finally made the discovery that by letting the lips flutter together inside one end of the reed we could produce a musical sound. A little practice soon brought out a fine trumpet tone. We selected our largest reeds, and with a slender stick pushed out the pith at all the joints. We discovered that the tone of the trumpet depended on the length of the reed, and we could regulate it to some extent by cutting off the reed. We made three trumpets,

tuned a step apart, and three children, each with a trumpet, could play a three-note tune, each child bringing in his note when it was needed in the tune. This was great fun, and led to combining more children with more notes. The impulse now seemed to be to make trumpets of everything we could find, and soon we had a *cow horn trumpet*, several shapes of *gourd trumpets*, *cardboard mailing tubes*, *rolls of paper*, *rubber hose*, a *brass tube*, and what not, all producing musical tones. The children enjoyed comparing the tones of these as to pitch and quality, and the older ones identified the pitch of each one at the piano.

One boy expressed the wish to play more than one tone on his trumpet, and that was the signal for a further experiment that resulted in a trumpet capable of yielding several tones. The delight of the child was great, and he trumpeted his three- and four-note melodies with much gusto. We found that it took a steady and controlled breath pressure to keep the tone even and true. This gave us the idea of timing ourselves to see how long we could sustain an unwavering tone. Several children acquired in a short time sufficient breath control to sustain a tone for twenty-five to thirty seconds.

Someone went to the seashore and brought back

several long Triton sea shells. I told the children of the uses that primitive peoples had made of sea shells, and they were eager to make trumpets of these and try the sounds. We bored a hole in the side of one (see Fig. 16), and in another the apex was cut off to make the hole. They had tones that were lovely but rather loud for a city studio, and lest we should disturb other people, we did not use them as much as we would have liked to do. Once we had an opportunity to play them in the country, and it was an exhilarating experience.

Gourds grow in many fantastic shapes and make delightful trumpets. Some that we made were veritable *shofars* like those of ancient Hebrew ritual, and had clear ringing tones. We also made *birch-bark trumpets* that were interesting both to make and to use.

The *Shepherd's pipe* is another reed instrument in which, by the use of holes, several tones can be made on one reed. The tone is generated, not by blowing across it, or by fluttering the lips, but by blowing directly into a whistle mouthpiece at one end of the reed. In the case of the dry reeds which we used, the mouthpiece was fitted into the reed, and was made much as the mouthpiece of the willow whistles or elder whistles which boys make

in the springtime. I found that small children could not use a knife well enough to make a whistle mouthpiece, but if made by an older child, they could play on these pipes very well.

Flageolets.—I also found some very good metal pipes of French make which the children could play quite easily. They are the same as shepherd's pipes except that they are made of metal. In order that the children might experience melody-playing in the very beginning, and gradually acquire the finger technic of the flageolet, I had them use at first only the two upper holes of the instrument. Two fingers down produced No. 1; one finger down produced No. 2; all the holes open produced No. 3; and thus by using two fingers they could play three-note melodies. These tones are meant to be numbers 5, 6, and 7 of the scale of the instrument, but serve equally well, as 1, 2, and 3 in another key; and little hands that could not manipulate six finger-holes could easily manage two, and complete an accurate melody. In a surprisingly short time even the very small children learned to manipulate all six holes with ease, and to coördinate their blowing with their finger movements.

It was with the flageolet that I tried my first



7. Swiss Bells

experiments in having the children coördinate foot movements with their own melody playing, for the flageolet was so easily carried about. At first they marched and played at the same time. The older ones played skipping tunes and skipped at the same time, and some of them found that they could control their muscular movements well enough to play the flageolet with one hand, the drum with the other, and march at the same time. Little Elizabeth, aged six, was impressed by an account of the pipers in the days of Merrie England, who danced from village to village playing both pipe and tabor; and fired by her own curiosity to see if it could be done, worked it out alone and was soon skipping away to 3/8 pulse, playing a melody of sustained tones in the same pulse on her flageolet with her breath and left hand, and at the same time beating the accents on the tabor with her right hand,—a well adjusted triple coördination.

Ocarina.—Any child who has played the flageolet will be able to play the ocarina (a simple primitive instrument made of clay) without difficulty. The principle involved is the same as that employed by the boy who blows a note through his hands held in a cupped position to his mouth. As in the case of the flageolet, the smaller children

started with the higher notes, requiring the use of fewer fingers, for the lowest note on the ocarina is the hardest of all for children to make. The ocarina is a fascinating instrument when well played, and even small children soon learn to use it well. It is made in several sizes, the smaller ones, of course, being better for children. It is especially suitable for playing bird songs. I use the high G ocarina for most bird songs, but the low G gives a remarkably true imitation of the dove's song and other low-toned bird songs.

Oboe.—Our experiments with oat and wheat straws led to the discovery of the principle of the double reed. By flattening the end of the straw and blowing through it, the two sides vibrated together and produced a tone. Holes in the straw, burned with a hot wire, enabled us to get several tones. A paper drinking straw from the soda fountain made an excellent *hautboy*, a double reed instrument, the ancestor of our modern oboe.

An interesting double reed instrument which any child can make and play upon in the summer is a *squash-leaf oboe*. Our summer experiments with this gave us much pleasure. To make this, the leaf with its stem is cut from the plant, leaving the hollow stem intact. Then at the leaf end a slit about

an inch long is made in the stem. By inserting this entirely in the mouth and blowing through it, the two slit surfaces are made to vibrate together, creating a reedy sound. A hole about one eighth of the length of the stem from the big end will produce a tone about a whole step above the fundamental. Another hole at nearly the same distance, and a third hole about half that distance from the second, should complete the first four tones of the diatonic major scale. Several squash-leaf stems can be cut until they will produce like tones, and they can then be used to make an interesting *squash-leaf ensemble.* If kept in water when not in use, these instruments will last for a few days. It is best to be satisfied with three or four tones, for it is difficult to make the higher tones of the scale come true.

Another one of our summer experiments was the *Petunia-blossom oboe.* We removed the pistil from the flower, put two pinholes in the side of the tube, and by blowing through it the children could play three-note melodies. This delicate little instrument gave out tones that both surprised and delighted them.

We also made a single beating reed instrument from a wheat straw—a primitive *Clarinet.* Holes

in the straw enabled us to make several notes. Another primitive clarinet was made of a piece of wood hollowed out like a tiny trough with one end cut off. A thin piece of wood cut the shape of a clarinet reed was fitted over this and the thick end of the reed tied to the trough near its open end. This has been called an *Indian Squaller*.[1]

Chinese Tche.—We found that a hole made in the middle of a straight open reed enabled us to get a pure tone by blowing directly across it. In experimenting with holes near the two ends of the reed, we discovered how we could make very satisfactory tones of the major scale. This kind of instrument was long ago made by the Chinese, but is now obsolete. The home-made ones, however, are interesting, easy to make and not difficult to play.

The Egyptian Ney is another obsolete instrument which we resurrected. It is a straight reed open at both ends, and is blown across the top, somewhat like the pipes of Pan. It has a little notch cut in the end across which the breath is directed, and this notch divides the column of air that produces the tone. It is the only case I know in which a tone can be produced in an open reed without any kind of mouthpiece. Holes in the side of this

[1] The author is indebted to Mr. L. A. Herr for this instrument.

reed give the different tones. This instrument was interesting as an experiment, but it was rather difficult for many of the children to get the air column directed exactly right for playing it.

Cornstalk fife.—One day I found a piece of cornstalk about ten inches long and one half inch in diameter, and brought it to the studio. It was soon converted into a fife. We ran a hot wire through it to burn out the pith, closed one end with paraffin, burned a hole near the closed end for blowing, and two others near the other end, and in a very short time the children were playing a three-note melody on this little bit of cornstalk.

Flutes.—The flute proper is a transverse instrument with the embouchure (hole for blowing) near the closed end. The fife and piccolo belong to the flute family. Our primitive *reed flutes* were made of large reeds about twenty to thirty inches long. We selected very straight ones and pushed out the pith from the inside joints, and closed one end with a cork. The holes we burned in the reed gave us an embouchure and finger holes by means of which we could, after a little practice, produce our simple melodies in soft, flute-like tones.

Their experiences with these reed instruments gave the children an interest in all kinds of flutes,

and some of them solved the problems of the *Chinese flute* (employing the whole-tone scale) sufficiently to play a few melodies on it. The *six-keyed flute* was by this time easy for them to understand and to play, as was also the six-keyed *piccolo.*

This led, naturally, to an interest in the flutes of our modern orchestra, and to an investigation of the *Boehm flute* with its improved system of keys. Experience with flutes of the old kind made them realize the reason for this mechanism and appreciate it. Before the end of the third year of this work, two children of the group had already selected the flute as their chosen instrument, having had large experience in all types of instruments.

STRINGED INSTRUMENTS

The simplest stringed instrument is, perhaps, a *hunter's bow.* To make a bow and arrow and listen for the sound of the string as the arrow was shot, was our first work in strings. Then we found a thin board like a barrel stave, fastened a string to one end, bored a hole in the other end, and fitted a peg into it. The free end of the string was fastened to the peg so that the string could be tightened by

turning the peg. We called this a *tension bow*, because it gave us an opportunity to observe the effects of tension on the tone of the string. The children discovered that the greater the tension of the string the higher the pitch of the tone.

Primitive Harps.—It seemed to me that the next step in the development of stringed instruments for the children should be a curved arc frame, strong enough to hold its shape while two or three strings of different lengths were stretched across it. With this I wanted to give the children an opportunity to observe the difference in pitch of strings of different lengths—using strings of the same size and approximately the same tension. The great problem was to find something curved and strong enough to hold its curve against the inward pull of three strings. This problem had caused much puzzling when I first planned these experiments until I suddenly thought of the rim of a wagon wheel. At once I explored a wheel factory and found that the circular rim (or feller) was in two pieces, and was made of very strong hard wood, steamed and bent by machinery into a curve that was as strong and inflexible as one could wish. One semicircular feller split in two made two harp frames. We strung these with three cotton cords

and tuned them to 1, 2, and 3 of the scale, observing that about the same tension for each produced the different notes, the difference being made by the length of the strings. This instrument turned out to be a veritable *shoulder harp* like that of the ancient Egyptians, for the children discovered that the most satisfactory way of holding it was on the left shoulder, with the right hand free to play it. When played on the shoulder they could also hear it better, the tones of the cotton cords being very soft. It seems that the Egyptians often used their harps on the shoulder with the same object in view—that is, to hear their own playing.

A folding coat hanger of wood furnished us the frame for a *triangle harp*, and showed very clearly the effect of the length of strings. All of the strings were of the same size, but all of different lengths. In this case I used a violin E string, the tone of which the children liked better than the twine cords of the shoulder harp.

The habit of inquiring into the musical possibilities of different things was shown when one of the children brought into the studio a wish-bone from her dinner table. Of course, a harp was the instrument it was best fitted for. We stretched a narrow rubber band several times across it, pulled



8. A Twelve-Note Marimba Played by its Maker

it into tune, and in a few minutes a melody was played upon this tiny *wish-bone harp.* This gave the children an idea for something larger, and one of them brought to the studio several small tree branches that were forked and had the same shape as the wish-bone. By stretching several rubber bands across them, they produced larger and more satisfactory "wish-bone" harps.

The next step was to make an instrument with strings of different sizes. For this the wheel factory again served us, and the strong wooden rim used for an automobile wheel made an excellent frame for a *Theban harp* (see Figure 25). For this instrument we used eight real harp strings, and tuned them to the diatonic scale. The children enjoyed looking at pictures of Egyptian harp players and experimented with different ways of holding the harp. The position shown in Figure 25 is the one they found most comfortable for playing.

In experimenting for position, one little girl of eight years who was sitting on the floor with the harp, made an important discovery. She rested one arm of the harp on the floor while she played, and her eyes opened wide as she heard the sound of the strings very much intensified. Then she turned the harp over and touched both arms of

it to the floor and the sound was even louder! "Oh, listen! How wonderful!" she exclaimed; and everybody had to try it. Then of course she wanted to brace the arms of the harp against everything in the room while she played to see if some other surprising thing would happen. She tried it against tiling, glass, windows, stone, curtains, plaster wall, mirror, piano, door panels, and tables. She liked it best against the door, or touching the piano. It seemed that flat wood made the strings sound louder. Then we discussed the way in which the wood took up the vibrations of the strings, vibrated with them, and so made the sound louder. And thus they discovered the principle of the *sounding board.* They held the harp flat against the door panel to play it, and then someone had an idea. "Let us make an instrument with a big flat board under the strings and fastened there to stay!" "A good idea; we'll try it."

Chinese Kin.—A thin flat board six by twelve inches long was soon found. The board served as a frame to hold the strings and we also put the peg holes in the same board. But the strings rattled against the board and made a disagreeable sound. How could that be remedied? Then we found that by putting a long narrow strip under the

strings at both top and bottom, the strings were lifted from the board and were free to vibrate between the strips. Thus the children had reached the stage of bridges in the development of stringed instruments. And what should they call this instrument they had made? In reality they had made an instrument of the same type as the Chinese kin: strings stretched across wood, lifted by bridges. So we called it a *Chinese kin*, and decided to tune it to the Chinese scale and play and improvise pentatonic melodies on it. At this point a few Chinese musical legends were told to the children.

The Lyre.—The development of the lyre began with the myth about Mercury and the first lyre. After much searching I had acquired a tortoise shell with the upper and lower shells still holding firmly together. First, for sanitary reasons, I varnished it inside and out, and then stretched a rubber band across the inside. The children could easily imagine how interested Mercury must have been in the sound of the dried ligaments. We saw pictures of *tortoise shell lyres*, and also the real ones in the Museum. We had an extra shell which I had found in the fish market, so we, too, could make a lyre. To the children the new thing about the lyre was

that the sound intensifier was to be a concave body instead of a flat surface. We saw that many of the early lyres in the Museum had skin stretched across the concave bodies with the strings passing over the skins. We wished to try that, so we made a four-stringed tortoise shell lyre and with it studied the Greek tetrachords, and improvised four-note melodies.

If a concave surface was a good resonator, wouldn't a box be equally good? To find out, we made a *box lyre.* For this we used a cigar box, with a hole in its cover and a strong frame around the box. On this lyre we used wire strings and the children found that their tones were louder than those of the other strings we had used.

Greek lyre.—When studying the lyre we were greatly interested in the Greeks, and in many of their stories. We had seen so many pictures of beautifully curved lyres that we longed for one of classic design. I did not feel that these children were, as yet, sufficiently experienced in the use of tools to make the thing they wanted, so I drew a design, a composite picture of many shapes of lyres, and had an instrument maker try it out. Alterations in the dimensions were made in several succeeding lyres, until finally one resulted which

was quite satisfactory, and the lyres made after this pattern have been a source of great pleasure to the children of all ages in my studio for these three years. They are strung with eleven strings and the children play upon them almost all the songs they sing. Often their first harmony experiments are made upon the lyre, and they begin their study and use of chords on this instrument. It is not surprising that the Greeks loved the lyre. It is simple enough for the smallest children who come to my studio (as young as three years of age) and pleasing enough to interest the oldest ones as well. Although this classic lyre is more pleasing to the eye, the home-made box lyre is very satisfactory, and I see no reason why any boy or girl who can use tools should not have one of these simple home-made instruments.

Several children at different times, and without suggestion from anyone, brought me little instruments of their own devising, resembling the box lyre type. Many of them were made with rubber bands stretched across cardboard boxes of various shapes, and some of them were very well tuned.

Psaltery.—Our first psaltery was really an old auto-harp with the mechanism taken off and the strings rearranged; and this made an excellent one,

for the psaltery is merely a flat box with a sound hole or holes, and strings of different lengths stretched across it. We used wire strings for our psaltery. Much plucking of the wire strings proved irritating to the fingers of the children, so they set about to relieve that difficulty. They tried using sticks of wood, pencils, nails, and various finger substitutes, and finally selected as their preference the quill end of a chicken wing-feather, which, indeed, was one of the early forms of the plectrum. They then discontinued the use of the finger on the psaltery, having actually experienced a reason for some instruments being played with a plectrum.

The Lute—Some historian said that when the lyre got a neck, the lute stage had come. We had used a cigar box with a hole in it for the box lyre. We took another cigar box, and instead of making a frame to support the strings, one long support was run through the center of the box and the strings attached to each end of this strip, running along almost the length of the strip. Although in the box lyre we had eight strings, in this instrument the strip was wide enough for only three peg holes in the top, so we could have only three strings. But luckily we didn't need any more, for when the

strings were tuned and little bridges in place to keep the strings from rattling against the strip of wood, we found that we could make other notes—in fact, we could finish the entire scale, by pressing fingers on the strings and making the parts that vibrated shorter and shorter. This was our *Cigar-box Lute.* The three strings were tuned to the major triad and the children found it easy to play chords as well as melodies on it.

An interesting experiment with an instrument of the lute type was made with a long Hercules Club gourd. This gourd had a hole in the largest part of it (see Fig. 33). After it left the garden it had served as a birds' nest hanging in a tree and through this hole the birds had gone in and out to the nest inside. The gourd was brought to me with bits of the nest still in it. Without changing the gourd in any way, except to varnish it, the children made a lute of it, and because of the history of the gourd, we called it our *Birds' Nest Lute.*

I also used the *Irish harp* in my experimental work and found that the children loved to play their melodies on it. Two-hand harp technic seemed difficult at first for many of the children, but after they had acquired freedom in playing

their simple melodies with their thumbs alone, they gradually brought the other fingers into use.

Banjo—The lute had given the children an interest in instruments with a body to reinforce the sound, and a neck on which to control the making of different tones. One day I offered them half a cocoanut shell and asked for suggestions as to how they could make a stringed instrument of that. The suggestions that resulted led to the making of a *cocoanut banjo* of the same type as those made by oriental peoples, with parchment covering the opening of the shell. As in the case of the lute, the children played melodies and chords by plucking the strings with their fingers.

The sound of strings stretched over parchment was so pleasing to the children that they wanted to try it out in some other way. A round butter tub from the grocer's (about seven inches in diameter) offered a tempting shape. The bottom was pushed out, and with the lid off it was merely a circular band. With this rim as a frame for the parchment, a boy of nine years made a fine *butter tub banjo* which sounded much like the real minstrel banjo.

A *gourd banjo* was also made in the studio by using the large end of a gourd for the resonating body.



9. Pipes of Pan

Bowed Instruments

The bow and arrow hanging on the wall had been quite forgotten in the interest of its various musical descendants until one day I took down the bow and handed it to a child who was playing the cocoanut banjo. Without my suggestion he drew it across a string, making a thin squeaky sound that interested him very much. I put rosin on the bow string, and the sound was clearer. Then I produced a real violin bow and the sound was much more pleasing. One difficulty, however, prevented its use on any string of the banjo except an outside one, for the child could not pull the bow across the middle string without striking all three. Accustomed to finding a way out of difficulties, he contrived a new bridge, one that was higher in the middle than at the sides. When the three strings were stretched over this he found that he could draw his bow over each of the strings separately. Thus, by merely changing the bridge, he had converted his cocoanut banjo into a *cocoanut fiddle.* Then he wanted to make a *horse hair bow;* so I procured a bunch of horse hairs from a bow maker and he fastened them to a curved stick, rosined them well, and his bow was ready. A loop

at one end allowed him to relieve the tension on the stick when the bow was not in use.

The logical result of the discovery of the use of the bow on the cocoanut banjo was the desire to make an instrument especially for bowing. The children were content to have only one string at first until they learned to use the bow with good results, for by this time they knew how to manipulate one string to produce several tones. Following the natural development of musical instruments, this new instrument was destined to be a *Monochord.* We used a large, deep cigar box, and put a strong stick through it; cut *f* holes (like other bowed instruments we had seen) and stretched a violin D string over a high bridge. (See Figure 37.) In the last stages we were almost breathless with the impatience to see what the monochord's tone would be. Finally it was ready to speak for the first time, and we stood around it in ceremonious awe. Its maker (a little girl of eight), radiant with excitement, drew the bow slowly across the string. "Oh!" everyone cried at once. "How beautiful!" "What a lovely tone!" And there on the workbench lay that wonderful singing Thing, ready to give out its voice to any child who wished to draw the bow across it. No other instrument we had

made had been quite the revelation that this one was. There seemed something quite human about it, and the children danced around it in ecstatic glee, taking turns at trying its tone. We found that the easiest way to play this instrument was to hold it firmly between the knees. This gave room for free arm movement.

Soon after this a little maid of six had an inspiration. She also would make a monochord, and would bring it to me as a surprise! So she set to work to find materials. Her little "Tilly Tinker" (toy) box seemed to have possibilities, but she had no cover for it. Never mind, she knew there were scraps of sheepskin left from the banjos, and surely there was a piece big enough to cover this small box. She took the dimensions and shyly asked me for a scrap the right size. Other difficulties were overcome; she asked for help in nailing the skin to the box, and finally it was finished and strung with scraps of violin strings tied together! She proudly presented it to me and was delighted when I gave her a string for it all in one piece. It had a funny little tone and she found much pleasure in trying to see how many different sounds she could get out of it. In experimenting with this, she discovered the use of the *movable bridge* and

thereafter played her tunes on it by slipping the little bridge up and down to places she had marked on the neck of the instrument, while with the other hand she plucked the string over the parchment (see Figure 31).

Inspired also by Florence's monochord, Charles (age nine) would go even further and make an instrument with three strings to be played upon with the bow. He would make a *cigar-box cello* out of the biggest cigar box he could possibly find! The cello proved as satisfactory as the monochord, and its three strings made its possibilities greater. Many three-stringed cellos were made in the studio, of varying sizes and with great varieties of tone. The deep cedar-wood cigar boxes seemed to give the best tone.

The success of these cigar-box fiddles seemed to stimulate the children's ambition to make other kinds of bowed instruments. Elizabeth was the first to attempt a violin to be held at the shoulder. She found a small flat cigar box, and following, with my assistance, the same plan that was employed in making the cellos, she soon had a *cigar-box violin* which she could hold under her chin and play—real violin fashion! This instrument also had three strings. It seemed to me that four strings

would make the playing a little too difficult for children until after they had acquired some experience in the use of an instrument with strings that were more easily separated than four strings could be. The holding of the instrument and the proper use of the bow seemed, to my mind, hard enough at first, without having undue complications in keeping the bow from striking more than one string at a time. However, since they had used the bow on the monochord and cello, its use in the violin position did not present any great difficulty, and three strings were easily managed. The cigar-box violin was tuned in fifths (as were the cellos). After Elizabeth had tried out her new violin and played a few melodies on it, she spontaneously hugged it to her, saying, "Oh, I just *love* this little fiddle!" The fiddle was truly hers, for she had made it. Of course she loved it.

This little violin served as a model for other children to follow. The musical possibilities of these instruments were patiently investigated by their makers, who found that very pleasing results could be obtained.

As soon as there were two instruments to be played with a bow, the children were eager to play them together, and by the end of the second year

of the experiment, we had a delightful quartet of home-made stringed instruments. This quartet played folk songs in unison and in four parts; classic melodies, and original compositions.

After a few months' use of her cigar-box violin, Santa Claus brought Elizabeth a "real" one, and this marked an important point in her musical development. She now had a professionally made violin in her hands for the first time in her life, and yet it seemed almost a well known friend. She not only knew at once the reason for every part of its construction, but was able to appreciate all the advantages it had over her own crude instrument: its fine polish, slender neck, graceful curves, and especially the "scooped out" places at the sides where the bow could have freer play. The instrument fell naturally into place under her chin, and when she drew her bow across it for the first time, she was conscious of the richness and fullness of tone which she had not been able to produce before and she marveled at the violin maker's skill. She possessed the background of knowledge and experience which gave her the ability to appreciate at once its finer tone quality and greater musical possibilities, and to discriminate between its own good and bad tones. Although nothing but a "real"

violin of good make will now meet her musical needs, she still holds an affectionate regard for the object of her own handiwork—her first little violin.

When the time came for Margaret to make a violin, she wished to try to make one more nearly like the new violin which she had heard Elizabeth play. She used thin boards of Spanish cedar wood, and made the box instead of using a cigar box, for she thought that a deeper box might have a fuller tone, so she made it just deep enough to fit under her chin without the use of a chin rest.

A peep into the "real" violin showed a sound post to intensify the sound. She decided to try a sound post also and see what happened. A little round post was glued to stand behind the bridge under the smallest string, and under the largest string, a small sounding board was glued to the box cover. The effect of these additions was very pronounced, and Margaret's violin proved to be a definite step in advance of the simpler cigar-box fiddles. Its tone quality and power make this instrument worthy of a place beside many of professional make.

After all this experimenting and developing of stringed instruments, the children began to mani-

fest a genuine curiosity about how the piano came to be. So I procured for them a *Dulcimer*, an instrument which represents a stage between the psaltery (which they knew) and the piano. The dulcimer is, like the psaltery, a set of strings of different lengths, stretched over a flat sounding box, but the wires are struck with a hammer, which makes it a more direct ancestor of the piano. The children were able to play their melodies on the dulcimer with ease after they learned the scale arrangement. They could easily realize that after people began using hammers on strings it was natural to expect them to develop a mechanical means of using the hammers and to improve the effect in various ways, the modern piano being the eventual result.

Although there are hundreds of other kinds of stringed instruments in the category of music's development, it seems to me that those described above cover the field sufficiently for the child. He passes from plucked strings without a resonating body to plucked strings with resonating bodies, of which the lyre and harp are conspicuous examples; thence, in one direction to strings played with a plectrum, and the honored representative



10. Reed Trumpet



11. A Birch-Bark Trumpet

of this type, the psaltery; and further on to the use of a hammer on the strings, the dulcimer, and to the perfected mechanism for hammers as in the piano; and then in another direction, through various types of stringed instruments with finger boards and those in which sound is obtained by the use of a bow, he experiences the development of bowed instruments leading up to the strings of the modern orchestra.

CHAPTER V

THE DEVELOPMENT OF THE RHYTHMIC SENSE

The foundation of music is rhythm, and as everyone knows, the feeling for rhythm must first find expression through the body. It was the recognition of the child's need to feel rhythm physically before he could sing or play rhythmically, that led me, many years ago, to incorporate dancing in my music teaching, and to devote to it a part of every music lesson.

Some children are so well coördinated in their bodily movements that dancing seems to come as naturally and easily as walking. In the case of these children, civilization has not deprived them of their birthright of feeling animal freedom. In my mind they are merely the normal (if normal may mean natural) rather than the especially endowed ones, and if all constraining influences were removed from the time of birth, doubtless all children would have as much freedom of body as young wild animals that have never experienced

fear. But we have to pay the cost of everything we have, and the muscular stiffness and awkwardness of so many of our children is the price we pay for a "proper" bringing up.

The constraint that blocks the free bodily expression of rhythm will also hold back other musical development, for if this essential foundation is poor, all that follows is impaired. If a child is unmusical at eight or ten years of age, it does not always mean that he could not have been musical if his body had been free and his training constructive, or that he could not yet be, under the right conditions. Who can tell how much natural musical power has been buried in a stiff little body, has become atrophied, and has never been recognized because it was denied the outlet of rhythmic bodily expression as the *natural starting point* in its growth? Is it not true that one seldom finds a really musical person with a constrained, awkward body? I cannot think of one. It is useless to attempt to separate our bodies from the things we do and think; the body is the medium through which musical thought must be expressed, and so far as our bodies are tied up with fear and other constraints, just so far is the music within us hopelessly imprisoned. Since vocal and instrumental music

both depend so vitally upon bodily freedom and muscular coördination, it is of great importance that this foundation shall be laid in the beginning of the child's musical study, and as early in his life as possible.

In beginning my work with each child, it has been my plan to find out so far as possible just what stage has been reached by his natural development in rhythmic feeling, and to take it up at that point. To ascertain this, it seems to me necessary first of all, to establish an attitude of mind and body conducive to the child's freedom of expression, and for this, of course, I have to feel my way experimentally with each child (and will probably always have to do so) until the child's confidence and freedom are established.

I have not employed social or æsthetic dancing, or the study of curves or attitudes, but have gone back to the simplest rhythmic movements and the most elemental forms of dancing for material to use in developing the little child's bodily response to rhythm. Many dances of primitive peoples are excellently suited to little children, though of course these must be selected with care, as some savage dances are not at all appropriate for children.

The earliest rhythmic movements of primitive

peoples and little children are without form, just as their earliest songs are without form. The response to rhythmic stimuli seems to be instinctive, in both animals and children, whether the nervous system receives the stimulus by means of the sense of touch, the eye, or the ear. But the earliest response is only to pure rhythm, or pulse; the recognition of rhythmic form is the result of experience —of sensori-motor learning. As early as a baby can use his eye muscles well enough to watch a moving object, he is apparently fascinated by the rhythmic swaying of objects; through his eye he responds to rhythmic motion, but the rhythmic design of the wall paper before his eyes means nothing whatever to him until he has first responded to formless rhythm, and his eye has, through experience only, learned to see and appreciate rhythmic design. The same is true of ear impressions, and the recognition of form in rhythmic sounds can come only after similar experience. The child who has an undeveloped sense of rhythm must be taken back, even to the reflex level if necessary, until his natural response to rhythmic stimuli is found, in order that none of those experiences upon which his development depends shall be lacking.

First of all the muscles must form habits, and the mother who holds her baby's hands and teaches him to clap "Pat-a-cake" is giving him sensori-motor training in rhythmic expression. I have often found it necessary to hold a child's feet or hands and guide the movements of them with my own hands until he felt the *sensation* of the rhythmic movement of hand or foot. After this it was easier for him to execute the movements alone. Clapping the hands together and tapping with the hand, or with a stick, upon some hard surface are perhaps the simplest movements for children, and by means of these the child may get his first definite feeling of rhythmic expression. If he walks with freedom, his first sensation of the rhythmic motions of his feet may come from walking or marching. Marching is the natural model for time measure and most children find it easy, but there are many children whose leg muscles need a little sensori-motor training before they recognize the sensation of rhythmic walking.

The child must be able not only to make steady, rhythmic movements with his hands and with his feet, but he must also be able to adjust his motions to fit some other steady rhythm—that of the music, for instance—and to recognize a change



12. Some Music Lessons are Best Out of Doors



13. The Shepherd's Pipe

to faster or slower tempi, and quickly to change his established rhythm to fit the new rhythm of the music. This ability is the foundation for all rhythmic work, and when the child has acquired accuracy in this, he is ready to make more rapid progress in rhythmic expression, and has also an important ally in the acquirement of skill in other lines, and in his life's work in general.

It is a noteworthy fact that all effort is easier and less tiring when done rhythmically. There is something in the swing of rhythmic effort that carries it on of its own impetus, to the great saving of human energy. This fact has been recognized by most primitive peoples, who have habitually availed themselves of this means to lighten their labors. It has also been wisely employed by men of greater intelligence to secure more efficient work from laborers. The person who writes rhythmically writes better than one who does not, and the acquirement of rhythm in any movement which one tries to learn facilitates his skill and ease in that movement. Many functions of our own bodies are striking proofs of the value of rhythm in our lives. Health is rhythmical, and a child's nature basks in rhythm, "the great corrector of nervous diseases and irregulated emotions."

It is in this stage of simple, unchanging rhythm that so many of the jigs and jolly dances of primitive peoples belong. I have found these most useful for little children, for they, like savages, prefer to continue at length any special step which they enjoy, without thought of change or figure.

I feel that one of the most important factors in the development of a child's rhythmic sense is the kind of music that is played for his dancing. It must be simple, well accentuated, rhythmically clear, and without many harmonies. It must help him rather than give him something else to interpret, and in the beginning he must not have to think too much about it in order to enjoy it. To be able to improvise in any rhythm at the piano, and at the same time to watch the feet of the little ones, seems to me quite necessary for the teacher, unless she has an accompanist who has the knack of playing simple music rhythmically. The music should be also varied, for the steps should not be so associated with one particular melody that they cannot be danced to any other music of proper rhythm.

After the children had had experience in dancing different primitive steps with accuracy, and a few mimetic dances as well, I gave them folk

dances which involve the free use of the entire body and also bring about the recognition of form in dancing. Active experiences in the forms of dances are the natural preparation for the understanding of form in song and instrumental music. The child who feels the form of his dance will be able to feel form in his singing and playing, and also in the compositions he creates.

Throughout the work the children have the opportunity for original expression, and they may combine familiar steps into new forms of their own. In the original dance work, these children have invented new steps and pantomimes, improvised to music almost daily, made dance dramatizations of fairy tales, poems and original stories, and impersonated natural phenomena, etc.—sometimes individually, but usually in groups. For example, one group of children made a very pretty dramatization of the life of the caterpillar and butterfly and dictated the kind of music desired at every stage. Very young children love all kinds of animal dances, especially those that involve both hands and feet in imitation of four-footed animals, and they sometimes show great ingenuity in improvising dances of this kind.

While I think it most important to give children

freedom in improvising dances of their own I have found it necessary to guard against the riotous element that sometimes comes into children's activities when they are given free play. Dancing is the most spontaneous of all the arts, but when it becomes riotous and uncontrolled it is no longer an art; it is either a pathological nervous reaction or a reversion to the animal plane, and tends to be destructive to the true artistic sense which we are trying to develop. One's own improvisations in dancing, as well as in singing and playing, must reach toward ideals of form, balance, and simplicity, and must lead to a sane expression and appreciation of art.

I have found dancing a valuable aid not only in teaching musical and poetic form to children, but also in the feeling and understanding of the different pulses of music. To dance the same kind of step to different pulses, according to the music, gives the child a definite experience in feeling pulses. To walk or to dance the rhythm of a melody will give the child a physical sensation of the rhythm which will enable him to play or to sing it with greater rhythmic accuracy.

A description of all the dances I have used does not lie within the scope of this book, nor is it

needed. The value of dancing is generally recognized and there are many books of children's dances to which the reader will have access. The main objects of this discussion are to emphasize the need of *correlating dancing with the child's music study,* of giving it the place of first importance when beginning to cultivate the musical sense, and to indicate the importance of using material that is truly constructive and yet simple enough to allow his development to be natural. It must be remembered that a child is not trained by what is presented to him but by his own reaction to what is presented.

It has seemed not out of place, however, to give a detailed description of a few of my own experiments in this line which may be useful, and which others may wish to try.

One day I observed a group of negro carpenters at work on the roof of a building. They were singing in unison and the fall of their hammers came rhythmically together, as they nailed on the shingles. They seemed to enjoy it so much that it gave me an idea for my rhythmic teaching: my little folks could build houses to music! I had a number of wooden blocks made about one inch by an inch and a half by ten inches and gave each

child sixteen blocks. After they had made various designs of their own, I showed the children how to make hollow towers of these blocks like the corn-cob pig-pens that country children make. After they had made several and knocked them over, we tried building them to music. At first it was hard for them to bring the block down exactly on the accented note, but after a little practice they found great pleasure in having all the blocks come down at the same instant, as one block. I played music in duple pulse, and they lifted the blocks on the unaccented note and put them in place on the accented note. At first they used one hand in this, then learned to do it equally well with the other hand, and afterwards used the two hands alternately. The children liked this exercise so much that they were always disappointed when the last block was used; so we tried the plan of continuing the exercise indefinitely by rebuilding the tower in another place as soon as it was finished, without waiting for the music to stop. As each child worked with sixteen blocks, the finished building came out each time at the end of a phrase, and this gave them new experiences in the feeling of form. Sometimes they built the towers slowly, moving on alternate beats, and at other times tried

moving in double-quick time to the still unchanged music.

I remembered having seen two or more workmen wielding sledges with rhythmic, alternate strokes, to drive a long stake into the ground; and again we used the workmen's suggestion and two children built a tower together. This was a little more difficult, as it required not only a feeling for the rhythm and a proper coördination of the muscles, but it also required inhibition at the same time.

This tower-building exercise involves concentrated attention, intelligence in keeping the tower straight, recognition and feeling for rhythm, a fine coördination of hand and arm that brings the block down not only at the exact instant but in a definitely ordered place (upon the accuracy of which the beauty and strength of the tower depends), and with a definite force (to keep from knocking the tower down), also definite self control in keeping each hand from working out of turn; and when two or more children work on one tower, an extra social value is added.

All kinds of ball games and ball dances are of value in giving the body rhythmic coördination. Children love to catch balls, and even bean bags,

to music, and my pupils have enjoyed attempts to combine dancing and ball catching in various ways. After children have acquired sufficient muscular coördination, this combination offers a large field in which they may make dances of their own, singly or in groups.

One experiment proved to be such a delight to the children that it served as a special treat: A group of children stood with balls in their hands and listened to the music which changed its tempo at frequent intervals. The plan was to throw the ball up on one beat and catch it on the next, and to regulate the distance the ball was thrown according to the time that elapsed between beats of the music. If the tempo was very slow the balls had to be thrown very high so they would not fall back to the hand before the next note was struck. If the tempo was very fast, a few inches was as much as the ball had time to go. Each time the tempo changed the children were allowed to pause for one measure to feel the rhythm. If a ball was dropped to the floor, or thrown or caught out of rhythm, the owner of it was temporarily out of the game.

This exercise calls for alertness of attention, quickness of response, muscular coördination, rhythmic feeling, quick judgment in selecting the



14. A Noon Hour at Home. A Flageolet Duet

distance, and physical adjustment in regulating the force to carry the ball to the right distance. It has an added interest when it can be given out of doors where the slowness of the tempo may be limited only according to the distance which the child can throw and catch the ball.

Ball throwing serves its purpose in rhythmic work by more or less vigorous movements, requiring a varying degree of muscular force. As a contrast to this, I tried experiments with balloons, which required an inhibition of muscular force, and these exercises I believe to be also valuable. When the child who is accustomed to throwing balls takes a balloon in his hand and throws it up, he invariably sends it too high until he has learned to adjust his muscles to more delicate movements. At first I had the children throw balloons lightly to music with simple duple pulse—"up—catch—up—catch," etc. Afterward they followed music in triple pulse, bouncing the balloon once before catching it: "up—bounce—catch," etc. Later they used quadruple pulse, with a bounce for each hand, thus: "up—bounce—bounce—catch," etc., and in every case the force had to be so adjusted that the balloon would go high enough to come back to the hand exactly on the proper beat of the music.

This exercise has great rhythmic value, and the ease with which the balloon is bounced makes it a great help in giving children definite experiences in different pulses. I have also found it especially valuable for children whose movements were "heavy" and who habitually used too much force in their activities. It "calmed down" their motions and the results in lightness and grace were very marked. The charm of the colored balloon seems to make the child forget himself in his absorbed interest in the balloon to a greater degree than in any other dances I have tried, and it has been very interesting to see children who are usually awkward give expression to freedom and real grace in this dance.

The *Dead Game* was another experiment that had very gratifying results in pure relaxation. Once the mother of one of my new pupils asked the child what part of the lesson he had enjoyed most, and he answered, "I like being dead best of all!" which puzzled the mother very much until she visited the studio. The idea is to drop all effort at a given signal, and instantly be as relaxed as if one had been shot. I have used the word "dead" deliberately, and have found no unpleasant reaction to the word on the part of the children, when it

was properly introduced. It is the "grown-up" who is afraid of the word, but to children it appeals to the dramatic instinct as few words do. If I should ask Johnny to relax, he would probably see no use in it, and I would have a big undertaking in attempting to teach him how to relax; but if he is a bear walking on all fours through the forest or doing a wonderful bear dance, and a hunter appears and shoots him, he is instantly a dead bear, and more relaxed than anyone could teach him to be. Gradually, remembering this and other pleasant experiences in being dead, he learns to relax intelligently. He also learns by experience early in his life how much faster his body recuperates in being completely dead than in half relaxed resting, and forms a healthful and time-saving habit. I have also tried sleeping games, but the response is not so quick nor so effectual. Sleep is too common an experience with children to have the same effect. It is not dramatic enough. When the children first practice the dead interlude, I usually precede it with an animal dance, to give them a motive for making the action as perfect as possible. Then the hunter examines the animals to see if they are dead; lifts each limb to see if it falls without resistance. If it isn't dead,

"it will be in just a moment." A little "dead music"—very soft, quieting strains—will help to keep the children absolutely lifeless as long as seems best for them. Presently a magic chord is heard which changes the dead bears into live children who are entirely refreshed, and only a minute or two has been consumed in the resting. Later the dramatic preparation may be omitted; and the moment I see signs of fatigue in a child, all I have to do is to point my finger at him and say, "Bang!" and he is instantly flat on the floor or on the couch. I believe this to be one of the most helpful things the children have learned in my studio; I realize its value every day. It is also a clear illustration of how the imitative and dramatic impulse of little children can be used for constructive and healthful purposes, where an intellectual process would be futile.

CHAPTER VI

SINGING AND VOICE CONTROL FOR CHILDREN

Most children develop the sense of rhythm before they acquire an appreciation of tone, and are able to coördinate the muscles of their bodies in dancing before they can produce definite melodies. This is consistent, for dancing is more elemental than any other form of rhythmic expression, reaching back even into the animal stage. Though the union of song and dance is almost universal among primitive peoples, all primitive music stresses rhythm rather than melody.

The child's first experience in tone should be vocal. Man's earliest expression of tone and melody was in song which he practiced long before artificial instruments of melody were even thought of. As dancing is more elemental than singing, so singing is more elemental than playing, and it is fitting that the child shall sing before he plays. Besides, melody playing in its simplest form is but the imitation of the voice in song, and I feel that

correlated song experiences are absolutely necessary in the logical development of any kind of musical training for the child.

Children, like birds, learn to sing by imitation, and it is not too early to start a child's musical education the day he is born, by singing to him. The child who is born into a family of spontaneous singers and who hears singing habitually in his home, stands a fair chance of being able to sing very early in his life, but the child whose mother and nurses never sing simple childish songs to him lacks the best opportunity to learn an art that necessarily begins by pure imitation.

The singing voice should be produced as easily and naturally as the speaking voice, and if children heard as much singing as talking, it probably would be. The child improvises his own words in conversation, and he should be able to improvise as freely with his singing voice. To speak in a singing voice with abandon, without having to conform to a set song, is a great help in freeing the voice. If we could, from our earliest childhood, feel and practice utter freedom in vocal sounds without being held down to real songs, and with no fear of forgetting either tune or words, I think we would probably not have to work so hard in later



15. A Revival of Merrie England's Pipe and Tabor

years to get our voices properly "placed." Constraint is at the root of most bad use of the voice. No organ of our anatomy responds more quickly to either physical or mental constraint, and infancy is the time to establish its freedom.

I believe that little children learn best to sing songs by attempting to imitate without having their attention called to their inaccuracies of pitch until after the plan of ignoring them has been given a fair trial. To call attention to an inaccuracy in the child's singing tends to make him self-conscious, and the voice is very susceptible to constraint from self-consciousness. One's own nervous mechanism takes care of adjusting the muscles of the pharynx that regulate the pitch of the voice, and one's conscious efforts to help the fixing of those muscles usually hinder rather than help. Unrestrained experience in singing is what every child needs, and the child who sings much with neither physical constraint nor external restraint will usually develop a natural mechanism for regulating the pitch of his tones, just as birds do. I have been interested to observe that young birds do not, in the beginning, "carry the tune" any more accurately than most children do. For several years I had the opportunity to observe the

methods of mother robins teaching their little ones to sing, as the trees around my home were nesting places for several families and several generations. These robins, year after year, held their singing school near my windows, and invariably they used the same little song for the baby birds to practice on—one much simpler than the wonderful songs the grown-up robins usually sang. Over and over again, hundreds of times a day, the mother bird would call to her fledglings, scarcely able to hop out of the nest, "Te de, tedle de!"—(the intervals being mi-re-mi-re-do). Faintly a little one would call back a prolonged "te!" wandering around on two or three indefinite notes. Immediately would come the bold answer from the mother, giving the song correctly. This singing school held all-day sessions. The teacher was indefatigable, though the pupils restored their enthusiasm by frequent naps. From day to day I could hear improvement in their singing, and in a short time, an especially clever one would be proudly caroling "Te-dle-de!" He had acquired the three notes at the end of the song, but the whole thing was a bit too complicated for him as yet. Before the summer was over, however, all the young robins had learned their lessons well, and a sliding, uncertain note was

very rarely heard. I believe that any child, who would begin relatively as early, and sing as much as those robins sang, with a simple and correct pattern ever ready for him to imitate, would be able to sing well and accurately no matter what his lack in musical inheritance might be.

From the beginning of their training, I have my pupils sing simple songs by rote—children's songs and folk songs, and their own improvisations, without any thought of analyzing them, since first of all their experiences must be enlarged and habits of free singing established. This rote singing is carried on through all their training until they are able to read new songs, for children must always sing.

Inaccuracies in pitch in a child's singing are usually due either to lack of experience and use of the voice or to inattention to the sound he is trying to imitate. Often he does not listen well. Perhaps he does not know how to concentrate his attention on something that is coming to him through his ear. Most savage children are trained in keenness of ear perception, but our children are brought up to rely more upon the eye and sense of touch for their impressions, and few of them notice anything but loud sounds, or know how to listen

for *qualities* of sound or to discriminate between those qualities. So first of all the child must learn to listen. If he listens intently to the tone he wishes to imitate, and sings with relaxed throat, the tone will usually come approximately true.

I found that often a child would sing a correct tone and instantly allow it to slide off pitch. To remedy this by increasing the child's power of attention and control over the tone, I tried the experiment of having the children sing entire sentences on one tone. Often we held lengthy conversations in the form of one-note chants, changing occasionally to another tone, but always singing steadily on pitch. This seemed to help the children very much to a realization of pitch; the physical sensation of steadily holding one tone gave them an experience in pitch control that seemed to make further singing easier. It seemed reasonable to suppose that the ability to hold the tone in one place would facilitate control in adjusting the voice to different pitches. It also occurred to me that one-note chants would be a good starting place in teaching monotones to sing, and the idea worked surprisingly well. Monotones are really our most elemental singers, and it seems to me that they give us a cue as to the natural development of

voice control. As they sing everything on or near one tone, they may be brought to sing consciously one steady tone, and from this gradually widen the power of voice control.

By occasionally using in our conversational singing a tone one step above our main tone, we progressed to chants of two notes. We always used the higher note on a word we wished to emphasize. At this point I gave the children a few definite two-note melodies, which they not only sang but also played on bells and metal bars. (Two of these melodies will be found in the next chapter.) Two tones do not allow much melodic variety, but when the child can sing three tones, using 1, 2, and 3 of the major scale, he then has the means of great variety in melody, especially with different rhythmic combinations. It may be of interest to note that the spontaneous improvisations of small children who have never been taught, often lie within this range of three notes, the third being sometimes major and sometimes minor.

A musical historian (Rowbotham) brings much evidence to prove that the history of vocal music commenced with a one-note period, and he cites the inhabitants of Tierra del Fuego as living examples of primitive peoples still in that stage; this,

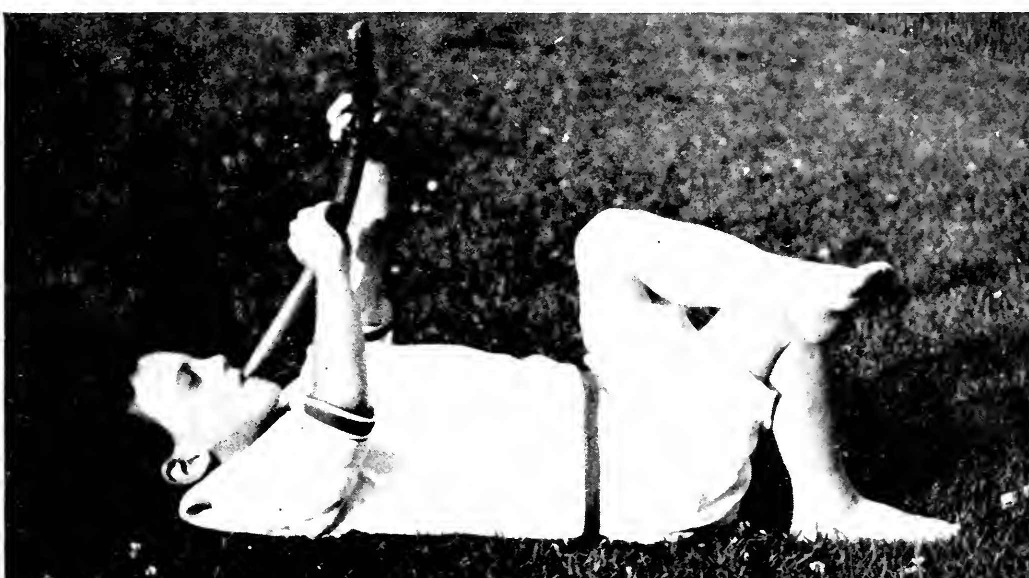
he claims, was followed by a two-note period, and later the third note above was added, and he gives many specimens of songs belonging to the three-note period, monotonous, and without form. Rowbotham's theory suggested to me the plan of following that order in both the singing and the playing of little children, and the results indicate that, whether or not this theory as to the long-ago evolution of song is true, the order fits the natural development of the little child of to-day and allows musical beginning to take deep root in him.

The third note was added to the children's conscious repertoire also by means of the chant without musical form, the highest note being employed for words to which we wished to give special emphasis. From improvising chants the children naturally began singing Mother Goose rhymes to melodies of three notes, and thus we took up the study of form in singing. They had already had experiences in form in their rote singing, but had not intellectualized those experiences or recognized form as such.

From the three-note scale to an understanding of the pentatonic scale (1, 2, 3, 5, and 6 of the diatonic major scale) was easy progression, since in their rote-song experiences the children had



16. Triton-Shell Trumpeters



17. A Lazy Oboe Player

already employed those tones. They were partial to the pentatonic scale, and seemed to fall quite naturally into the use of it in their song improvisations. Indeed, many musical peoples have shown a preference for this scale, and it may be recalled that some of the loveliest folk songs are built upon it, "Swing Low, Sweet Chariot," for instance, and "Auld Lang Syne."

For the child's mental picture of the intervals, I use the numerical names. Any child, when he begins music lessons, has already had practical experiences in numbers, and these are therefore simple and appropriate as symbols for the intervals. "Do—re—mi" is a foreign language to the young child, and complicates his singing process. I have used the numbers for many years and have found them entirely satisfactory as guides both for singing and for the first instrumental playing.

The children were so pleased to see that they could intellectualize the melodies which they had formerly sung by rote, that they wanted to analyze all of them, and by doing so, they soon acquired a conscious feeling for and recognition of all the intervals of the major scale and of the minor as well.

CHAPTER VII

CORRELATION OF SINGING AND PLAYING

With no other motive than the pleasure of singing, the children learned songs and sang them, and later, when they used instruments, these song experiences served them well. Children love familiar things in new forms, and the discovery of a different way to produce a melody which they know how to sing, links up the new and the old experiences in a way that greatly pleases them. As stated in an earlier chapter, the first instruments used were percussion instruments. The children played melodies which they already knew, their efforts involving merely the attempt to imitate the voice (either theirs or mine) as nearly as the instrument would allow; so that in a sense, all their first playing has been a form of imitation, guided, of course, by mental processes varying according to the instrument.

Not all children can sing with their tones sufficiently accurate in pitch to serve as guides in their

playing. But those who could not sing accurately (and few of the very young ones could in the beginning) followed my voice in their playing. I also found that those children who could not easily sing in tune made much greater progress in voice control when they assisted their own voices by playing on the glasses. When the brain, the hand, the eye, and the voice were all concentrating on the same little melody, the voice was much truer in pitch. I have found this practice very helpful in teaching monotones to sing. The glasses are better for this than metal instruments because the tones of the glasses are softer and blend better with the child's voice.

The musical literature used with these instruments comprised carefully arranged primitive songs, folk songs, simple melodies, the children's own compositions, and classic themes.

The playing of the very young child in the beginning was, of course, of the simplest kind possible. His instruments and his songs, too, were of small range, often involving only two or three notes.

The chants and two-note and three-note songs which were given them not only helped the children to sing in tune, but also gave them material

for playing upon the simple instruments which they used at first. They had played folk-song rhythms and other rhythms on their drums and rattles, and now they were ready to play melodies, but their simplest instruments had not the capacity for folk songs, and besides, the little child needed something even simpler to play. "Hot Cross Buns" is a fine example of the kind of song that is suited to the little child's first playing. There is interesting variety in its melody and rhythm, and yet it is simple enough for any child who is old enough to learn to play melodies. But I have been unable to find in folk-song literature other songs as simple as this and yet suited to children, so to fill the need, I have been reduced to the necessity of supplementing "Hot Cross Buns" with a few songs of my own making. In order that the child may be free to try out different kinds of instruments, he must have a number and variety of three-note melodies in his repertoire—melodies so simple that when he once knows them, they "go" without brain effort on his part, leaving him free to think of his new medium, and at the same time allow him to experience a musical result with it. Below are a few two-note and three-note melodies given in the simple notation which I use with the

children who know how to read numbers. The words give the rhythm, and the numbers represent the notes of the diatonic major scale:

A Bird Song (without form):

```
Bobby dear!   Time to go to bed.   Yes, mother, I'm coming.
 1  2   1       1  2  1  2  1       1    2   2   2   2  1
```

An Old Rhyme:

```
One, two, tie my shoe.   Three, four, shut the door (and other verses).
 1    2    1   1   2        1     2     1    2   1
```

Bell Song:

```
6/8 Pulse:  Ding Dong!   Ding Dong!   Hear the merry bells ringing.
              3    1       3    1       2   2   2  1   2     3 1

            Ding Dong!   Ding Dong!   Hear the merry bells ring.
              3    1       3    1       2   2   2  1   2    1
```

Another Three-note Song:

```
4/4 Pulse:  If you'll come and   play for me then   I will dance for you.
            1   1     1    2       3   3   3   2    1  1    2    2   3

            Play the music   merrily, and   I'll be merry too.
              1   1   1 2     3 3 3    2     1    1  2 2    1
```

I also add this well-known favorite:

```
4/4 Pulse:  Hot cross buns!   Hot cross buns!
             3    2    1 —     3    2    1 —

            One a penny, two a penny!   Hot cross buns!
             1  1  1 1    2  2  2 2      3    2    1 —
```

One of the children's especial favorites was the "Bear Song"—without rhyme. I preface the giving of this song with a story of a little savage

boy who was starting out for a walk in the woods. His father asked him what he would do if he should meet an elephant in the woods. "I would climb up his trunk and have a ride," the boy replied. "What would you do if you should meet a bear in the woods?" again the father asked, and the boy drew himself up to his greatest height and replied:

2/4 Pulse:

If I saw a bear I would run so fast that he never could catch me.
1 2 3 3 3 2 1 2 2 2 1 2 3 3 2 1 2— —

If I saw a bear I would run so fast that he never could catch me.
1 2 3 3 3 2 1 2 2 2 1 2 3 3 2 2 1— —

By the time the children had played three-note melodies, they had sung pentatonic melodies, and were anxious to try these songs of wider range on the different instruments, and also to improvise pentatonic melodies. There are many folk songs that involve only the first five notes of the major scale ("Winter Goodbye," for instance) and these we freely used. Four-note melodies are not so easily found. Below is a four-note melody which the children used for their first tetrachord work on the lyre and other instruments.

4/4 Pulse: 1 2 3 2 1 2 3— 2 3 4 3 2 3 4—
1 2 3 2 1 2 3— 4 3 2 3 1———



18. Chinese Tche



19. Transverse Reed Flute



20. Wheat-Straw Clarinet

As they had gradually increased their range of singing tones, so they gradually enlarged the compass of the tunes they played; and from five- and six-note melodies they passed easily to playing songs that involved the complete scale and more. Habits of listening carefully to the intervals in new songs and of recognizing the intervals they sang, made it very easy for the children, after a little experience, to play by ear most of the melodies they sang. In playing, they used numbers for their intervals, as they had in analyzing their songs. In fact it was in playing that I had first tried, years before, the use of numbers. I remembered that as a child I had thought only of the number of the interval when I played by ear naturally, and I could think of no easier means of guiding children to play by ear intelligently. By *intelligent playing by ear* I mean a conscious recognition of the interval heard and an instant placement of it on the instrument; and it is my belief that this kind of playing is an end greatly to be desired, based as it must be on a sound musical understanding.

As soon as the children knew the number of the scale interval which each tone of the song represented, and knew the rhythm of the melody, it was easy to transfer that knowledge to any instrument

which they knew how to manipulate, if it had the range capacity for it, without any thought of key or letter name. Nothing stood between the song and the instrument; no theory of music, no symbols, not even names of keys—only the relation of sounds to each other. If the child could sing a song and know what he was singing, that was all that was necessary; he could play it. This foundation leads not only to intimacy with the instrument, but in later study to easy and natural transposition from key to key. Each new instrument that the child made or learned to use, served as a new medium through which to express his familiar tunes, and most of the children habitually wanted to play a melody on every instrument they knew how to manipulate.

After the children had acquired a little freedom in playing simple melodies and after several had learned the same tunes, they combined their playing, first on instruments of the same kind, and afterwards on different kinds of instruments tuned together. Their first ensemble efforts were, of course, in unison, and they soon realized the need of having their instruments tuned accurately and in unison. It was interesting to observe how rapidly the children, even those four and five years

of age, developed the ability to tell when a note was out of tune. The daily tuning of the glasses gave them opportunity for much experience in pitch discrimination from the very beginning of their training, so that by the time they reached stringed instruments, they had little difficulty with the tuning.

After a time, through both vocal and instrumental experiences with rounds and canons, we came to an enjoyment and appreciation of harmony. With a little practice, the children could soon sustain their parts in a simple round with accuracy and enjoyment. The older children took great pleasure in "part playing" and in combining various instruments in the different parts; and when I added to their orchestral combinations further accompaniment at the piano, they were delighted. One of the things which seemed to thrill them most was a Martin Luther Choral, the melody of which six of the children played on glasses, Swiss bells, and psalteries; while I supplied the modulating harmonies at the piano. "O, I *love* it!" a child would often say; "Please let us play it again!" This was one of the things which they learned as pure melody, for we decided that no spoken words could be beautiful enough to be associated with it.

After their experiences in singing, and in transferring song melodies to instruments, the children seemed to progress naturally to the playing of melodies without words, and to the appreciation of pure melody.

I was pleased to see how well they could draw comparisons between the tone qualities of the different instruments, and how soon they developed judgment in making combinations. For instance, one little girl said, after experimenting: "The ocarina doesn't mix well with the glasses. I don't like it at all. The harp goes much better with them." They all have preferences as to combinations of instruments, and have evinced decidedly developing taste in this, as also in the suitability of certain instruments for certain melodies. At one time two of the children were working on a little Bach minuet, one child playing the upper voice and the other the lower voice. They tried it on the glasses, the harp, the lyres, the flageolet, and the marimba, and selected the latter as being most suited to the melody, as indeed it was, with its uniform clarity and purity of tone.

It was a great day when four of the children were able to combine the playing of the fiddles which they had made, and organize a stringed



21. Summer Music in the Garden
(Squash-Leaf Oboe)



22. A Young Apollo Plays the First
Stringed Instrument

quartette. On these fiddles they played folk songs in unison and in parts, classic themes and their own compositions. One fiddle group played very musically the theme of the Mozart A major Sonata with all its parts.

In the children's singing experiences I have purposely avoided songs that involved accidentals until I felt that they had developed a definite feeling for the pentatonic and diatonic scales. I remember how, as a child, I was greatly confused by accidentals until by chance I consciously recognized the major scale as my "home base." One will find that most of the best folk songs are without accidentals, which fact indicates that musical peoples develop first along the simple line of the scale. One of the most striking differences between folk songs and many modern songs for children is the presence of accidentals in the latter. These accidentals make the melody more difficult for the child to comprehend, and they tend to confuse him when he tries to reproduce it in some other way than with his voice. In keeping with this idea, all of the simple instruments which the children first use are limited to the diatonic scale. After they are thoroughly at home in the manipulation of an instrument confined to the diatonic

scale, the introduction of an accidental or two adds a new interest rather than confusion. One day Mary was experimenting with the Irish harp and discovered how, by turning a little device, the tones could be raised a half step. From that moment her interest naturally reached out for variations in the scale with which she was already quite familiar.

Notation Deferred.—As has already been pointed out in Chapter II, Notation should be postponed until after the child has had wide experience in making music. The use of all types of instruments makes this deferring of modern notation come as a matter of course, because, as the notes of the staff are produced differently on different instruments, the use of the same symbols for all would be too confusing to the child.

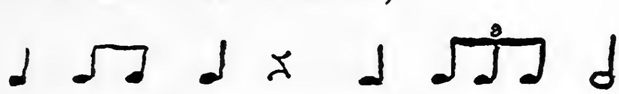
As the child plays by imitation and by ear, no symbols whatever are needed in the beginning. The first thought of written signs usually comes when a child has made up a little song which he plays and would like to remember, and thinks he might forget. He knows that words can be written, and he also knows that the notes of his instrument are numbered; therefore it is quite simple to write the words and put the numbers under them

to show the tune; and so the record is safe. After a little drill in remembering what he composes, he easily forms the habit of writing down most of his original compositions, either with or without words, merely to preserve them. But even this simple system of number notation (without a staff) is not presented to him until the numbers have first been given musical meaning both with voice and instruments. These numbers may be applied to all primitive instruments without exception, and to modern ones as well, and yet they involve no complex symbols.

After a child has had intelligent experiences in playing the different pulses of music, he easily grasps the meaning of pulse signatures, but "key signatures" as yet mean nothing to him. If he composes a little melody and sets it down thus:

4. 1 $\overline{3\ 1}$ 5 0 | 1 $\overline{4\ 3\ 2}$ 1 — |

it is accurately recorded, the numbers giving at a glance the melody and the rhythm as well. In ordinary notation the rhythm would be expressed thus (four beats to a measure):



but the child's simple symbols mean more to him, based, as they are, on his own experience. The

shapes of notes and note values may come later on, and these symbols may be placed in a line above the figures. The interpretation of all symbols should be made first with the voice, the easiest and most direct approach to the child's feeling for and understanding of them. Gradually, one at a time, the modern symbols may be brought into use, leaving the staff, which is most difficult for him, until by actual experience he realizes the need which the staff serves.

It is, of course, as necessary for the student of music to know how to read music symbols as it is necessary for the student of literature to know how to read a language, and any training which does not involve the acquirement of this knowledge and practice as soon as the child is ready for it, fails to give him the access to musical literature that is everyone's right and privilege. But in the above described plan, we have a process which puts real meaning into note-reading; which first gives the child an opportunity to learn in the natural way—by imitation; which gradually intellectualizes his experiences and allows him to acquire freedom in playing, with nothing to distract his mind from the musical thought he is trying to express; which gives him the thing before the symbol of it—the free



23. Experiments with the Tension Bow

expression of the language before its written form; and which, through activities that hold his interest, leads him to acquire step by step, of his own accord, and without realizing its difficulty, an understanding of our highly involved and complex system of notation.

CHAPTER VIII

ORIGINAL COMPOSITIONS

Not only has original expression been encouraged from the beginning of my training for children, but composing has been a definitely prescribed activity in each phase of the work. It is my belief that the ability for original thought and action is best fostered in the earliest stages of any form of expression, for after habits of following conventional lines have been thoroughly established, it is very hard for the average person to break away into new and original ways. But when the entire field is new, and the child is so young that his ideas are as free to flow in one way as in another, it is not so difficult to form habits of finding ways of his own to express his ideas. So soon as one of my pupils has had an idea of his own, he has been urged to give it original expression, whether it be in dancing, singing, language, or playing.

The original dances of the children have been touched upon in Chapter V.

Song improvisations really began in mere singing conversations which any child who can talk may practice. The children greeted me and bade me good-bye in song, using absolute freedom in what they said and the melodies they employed. We conversed in song on any subject, at first without thought of form. Afterwards we "made up" little songs about things we saw and things we liked. I improvised songs in their presence about all kinds of things, and by means of their natural imitative tendency (contradictory though it may seem) they caught the spirit and habit of original improvising. It was not my aim to bring out anything of artistic value in the beginning, but merely to give the child freedom in letting his song flow, and to have him realize how easy improvisation is, and feel no constraint in attempting it. It must always be remembered that we do not wish to force the child's powers and, fortunately, one cannot force a child in his original work.

A few illustrations of the original work of little children may be of interest. These examples are not given as evidence of precocity or unusual power, but simply as the natural expressions of normal children under conditions that give them opportunity for free expression.

Little Katharine is just beginning to form the habit of improvising. She stood in the window in the country, a few days after her fourth birthday, listening to sounds from the woods. Suddenly she sang the little song shown in Music Plate I.

Even if we had so desired, we could not have kept out of the realm of *poetry*, for rhythmic language is as truly a part of music as are any other rhythmic sounds. After chants and tuneful conversations and improvisations without form or meter, like the above, the children gradually fell into the use of words with established meter, their rhythmic feeling finding expression in language as spontaneously as it did in dancing and playing. The following is an example of rhythmic free verse spontaneously created in the studio by Arthur (aged six) as he looked at a vase of flowers:

> The petals have fallen from the rose,
> But there are two buds left,
> And the leaves are nice and green.
> And the stems can drink the water up
> To make the petals grow again.

Rhyme makes a strong appeal to the child, especially to those whose Mother Goose experiences have tuned their ears to its charm, and the children

naturally fell into its use, composing words with both meter and rhyme. Their poetic lines assumed balance in the same way that their melodies had taken form.

As soon as Oren (aged eight) had finished making his twelve-note marimba, he made a poem and set it to music, and when he played this upon his marimba, he had a threefold piece of creative work, the instrument, the poem, and the melody. I give the words as an example of a child's natural use of meter and rhyme in language. He called his poem "The Voice of Spring":

> I am here! I am here!
> Summer days are very near.
> See the flowers all around
> On the green and grassy ground.
> See, the sun is shining bright,
> No gray clouds say snow to-night.

One of the most natural forms of musical composition for children is the setting of familiar rhymes to music. Most of the children already knew many Mother Goose rhymes when they came to me, and these old friends were soon linked up with their new experiences in melody. Sometimes they sang the familiar words to new tunes; sometimes they played the melody on some instrument

merely following the words mentally, and sometimes they sang as they played. Music Plate II gives a musical setting for "Goosey, Goosey, Gander," which Dorianne (aged five) improvised at the glasses.

The improvising of melodies on the different instruments began as soon as the children could use the simplest percussion instruments. The training in this consisted mainly of letting the children play freely; of making them conscious of the melodies they had played; of guiding them to a realization of form in their expressions; and of helping them to remember their compositions in parts and as wholes. At first, of course, they could not remember what they had improvised. To relieve this difficulty, I gave them exercises in improvising phrases that were no longer than they could remember and play again in exactly the same way. For instance, a child would improvise a phrase, and be required to repeat it accurately. If he could not do this, he must try a shorter phrase, or still shorter one, until he could remember one phrase perfectly. Then, a second phrase and its repetition, and a combination of the two phrases; and so on through his composition. When he was

sure that a phrase or a composition was in the form he wished it to remain, he was allowed to write it down in the simple notation as explained in Chapter VII; or, if he was unable to write I recorded it for him. Often a child stopped in the middle of a composition to write down something that pleased him, lest he lose it; and sometimes, rather than disturb a thought that was flowing easily, I stood near and caught on paper an entire improvisation as it was played. Frequently, after a pleasing melody had been made, the child composed words to fit it, making it into a song.

Alva's Harp Improvisation is a fair example of melody that flows spontaneously from the child's fingers, without thought of words. Alva, aged six, and in the first year of her study, stood by the harp waiting for something, and without warning I heard the simple little tune which is given in Music Plate III without any hesitation, except a little in the last line.

One day little Jane (aged six) walked across the studio with the air of a quaint little Mid-Victorian lady, and in keeping with the picture she presented to the eye, improvised on the glasses a little old-fashioned gavotte. See Music Plate IV.

Often the children employed more than one form of improvisation at the same time, as the words and melody of a song. Bill began his lessons at three years of age. His first improvisation in both song and dance, were formless, childish expressions, natural to all children at that age. He gradually learned to sing in tune, and was very fond of making melodies on all simple instruments. Later, these different outlets for original expression were united, and he would compose a song, singing and playing it at the same time. As a specific example of this, I append the "Green Bird" (see Music Plate V), which he composed at the age of five and a half years, at the psaltery, singing the song, composing both words and melody, and playing it all at the same time. The spontaneous amalgamation of these activities, having begun so early in his life, had acquired for him a new language in which instrument, hand, voice, and mind were one.

It is interesting to see how the child's personality is expressed in his compositions. In evidence of this, I add another "Green Bird" (see Music Plate VI) by Margaret, aged six. The stimulus for these two compositions was exactly the same—the picture of a bird with brilliant green plumage



24. The Ancient Egyptian Shoulder Harp is Revived by the Help of a Cart Wheel

—but the children's reactions being different, the compositions took on entirely different characters.

The children enjoyed not only their own compositions, but one another's as well, and often when one child composed something very attractive, the other children wanted to learn to play it also. The older children harmonized their own compositions; and sometimes I harmonized the original melodies of the younger children so they could be played in parts, which delighted them very much.

Thinking it may be of interest to some of the teachers who read these pages, I add below two programs given by practically the same group of children in two consecutive years in the form of concerts to their families and friends. All the numbers were composed by the children and played by them, either as solos or as ensemble. The piano numbers on the first program may seem out of place in company with such simple instruments, but these two children who were studying improvisation at the piano had, I felt, a distinct contribution to an original program. It may be seen that the home-made violin, monochord, and cello of the first program have been replaced in the second program by modern stringed instruments.

PROGRAM OF ORIGINAL COMPOSITIONS

given

May 22, 1920

(Creative Music Studio, New York)

WIND INSTRUMENTS

*A Woodland Melody (*on Pipes of Pan*)............OREN
The Wind among the Reeds (*on Chinese Tche*)..ELIZABETH
A Summer Song (*on Flageolet*)....................OREN
A Skipping Tune (*on Ocarina*)...............ELIZABETH
The Bird's Concert (*for Ocarinas*)......composed by BILL
played by CLASS
Little Bo-Peep (*for two Flageolets*) composed by ELIZABETH
played by ELIZABETH and FLORENCE

PERCUSSION INSTRUMENTS

Sunday Morning (*on Vibrating Rods*)...............BILL
Improvisation (*on Chinese Gongs*).............MARGARET
Thinking of Christmas (*on Sleighbells*).............OREN
Over the Hills (*on Glasses*)...................MARGARET
A Bell Song (*on Swiss Bells*)................ELIZABETH
*The Voice of Spring (*on Marimba*)................OREN
A Crystal Chorus (*for Glasses*)........composed by OREN
played by CLASS

NOTE.—*Indicates that the child uses an instrument made by himself. Each solo is played by the composer.

PROGRAM—*Continued*

STRINGED INSTRUMENTS

A Chinese Story (*on Kin*) .... MARGARET
A Monkey Song (*on Cocoanut Banjo*) .... OREN
*Happy Thoughts (*for Lute*) .... FLORENCE
Time to Go to Sleep (*for Irish Harp*) .... BILL
A Birthday Song for Sister (*for Lyre*) .... OREN
A Lullaby (*for Lyres*) .... composed by FLORENCE
played by CLASS
*Just a Plain Song (*on Fiddle*) .... MARGARET
*Once Long Ago (*on Monochord*) .... FLORENCE
*In the Evening (*on Violin*) .... ELIZABETH
*The Wreck of the Hesperus (*on Cello*) .... CHARLES
Summer's Coming (*on Psaltery*) .... BILL
(a) The Messenger
(b) Improvisation (*for Piano*) .... CHARLES
(a) Cradle Song
(b) Call of the Desert
(c) The Swallow (*for Piano*) .... MADGE
The Procession (*for Piano and Orchestra*)
composed by MADGE, played by CLASS
Now I Lay Me Down to Sleep (*for Strings*)
composed by ELIZABETH, played by A FAMILY TRIO
The Swing (*for Wind and Strings*) composed by MARGARET
played by CLASS
A Chinese Painting (*for Orchestra*) composed by Bill
played by CLASS

PROGRAM OF ORIGINAL COMPOSITIONS

given

April 16, 1921

(Creative Music Studio, New York)

Songs—*The Daisy* / *To the Green Bird* .... MARGARET

PERCUSSION INSTRUMENTS

Swiss Bells—*A Bell Song* .... BILL
Marimbas—**A Four-note Melody* .... ALVA
**Early in the Morning* .... OREN
The Pink Rose (duet) .... BILL
Glasses—*Two Improvisations* .... KATHARINE
(illustrating first creative work of a three-year-old child)
The Hobby Horse .... MARGARET
A Spanish Dance (trio) .... ELIZABETH
Song—*The Indigo Bunting* .... ALVA

WIND INSTRUMENTS

Ocarinas—*A Little Bird Song* .... MARGARET
Improvisation on Large Ocarina .... BILL
Chinese Flute—*Melody on Whole-tone Scale* ... ELIZABETH
Silver Flute—*Boat Song* .... FLORENCE
On the Farm .... FLORENCE



25. Listening to the Soft Tones of the Theban Harp

PROGRAM—*Continued*

STRINGED INSTRUMENTS

Lyres—*Snowflakes* (composed on a snowy day) . . . . . . ALVA
The Butterfly (ensemble) . . . . MARGARET
Butter-tub Banjo—**A Jig* . . . . OREN
Cigar-box Fiddles—**A Song Without Words* . . . . BILL
**Melody for the New Fiddle*. MARGARET
**Improvisation* . . . . OREN
**Pasha, my Dog* (for fiddle quartet) BILL
Psaltery—*A Christmas Song* . . . . BILL
A March . . . . OREN
Harp—*A Harp Improvisation* . . . . ALVA
Falling Petals . . . . BILL
An Irish Tune . . . . MARGARET
Modern Violin—*A Dance for Brer Rabbit* . . . . . . ELIZABETH
The Purple Cow . . . . FLORENCE
Modern Cello—*An Improvisation* . . . . CHARLES
Quartet of Modern Instruments—*The Green Bird* . . . . BILL
A Hymn . . . . ELIZABETH
Cradle Song . . . FLORENCE

NOTE.—*Indicates that the child uses an instrument made by himself. After each number only the composer's name is given, though the number may be played by several children.

CHAPTER IX

A WORD ABOUT RECITALS

PUBLIC musical recitals may be either helpful or harmful to children. From the teacher's standpoint they are necessary, for she must have some way of showing the public what she is doing in order that she may come in touch with those who need her services, and that she may thrive in her profession. Parents, too, usually consider them necessary for their own information; and both parents and teachers regard public recitals as a necessary means of overcoming stage-fright and self-conscious tendencies in the child.

As a matter of fact recitals do not always help the child to play without nervousness, and when experience in recital playing does help one to play his best without embarrassment, it is too often because of self-confidence resulting from flattery and applause. Not always does it bring about an ease which is the result of an absorbed interest in the performance. But of course it all goes back to

the motive behind our work. If we teach for professional reputation and if pupils practice for the approval of an audience or for mother's praise, the recital seems a great success when those things are realized. The more public approval a child receives, the more his sense of power grows into vanity, and his ease in playing is not always from self-forgetfulness, but often from the hypnotic power of self-conceit, the fear of the audience having been overcome by the courage of egotism.

There is obviously a great power for good in having children play for others in all stages of their study, and if a child can acquire enough experience to give him the habit of playing freely for others without exalting his personality and feeding his vanity, this experience is greatly to be desired. Parents often misunderstand the effects of praising the child's playing, and I have known children to pout after coming home from a recital until both father and mother had praised their performances. From the very beginning of a child's experiences in playing for his parents, it is much better that they should show their appreciation by speaking intelligently of the music rather than of how well he played it. If parents have the habit of keeping the child's person in the foreground when he plays, it

will be very hard for that child ever to forget himself in playing for others. Parental pride should be restrained or redirected in the interest of the child.

I have made several experiments in the form of recitals, but I do not profess to have solved the problem. These experiments, however, have seemed helpful to my pupils and I pass the suggestions on.

Holding ideals of the simplicity and intimacy of music, my first recitals for any group of children are always "family affairs," that the children may first learn to play for their natural audience, the family. Children of two or three congenial families are often grouped together for their concerts, and as much home atmosphere brought into them as possible. These intimate family concerts come frequently during the year, and each time the children prepare the program, planning whatever they think the family would most enjoy.

Much ensemble singing and playing are worked into these recitals, for I believe that ensemble work is the surest way to help a child acquire the habit of forgetting himself in public playing, through his interest in the thing he is doing.

Often a special concert is arranged as a compli-



26. A Young Orpheus

ment to some family member. One of my groups had several children in it who were related to each other, having the same grandfather. A concert for grandfather's birthday was arranged as a special treat for him, and only the families of this group were present. Each child thought of his playing as a birthday contribution to grandpa, and although the concert was carried out in regular concert form and order ("to make it easier for grandpa") they all seemed to be thinking of their contribution to him, not of themselves, and played with unconscious ease.

Christmas surprises to their families in the form of concerts arranged especially for them have given the children much wholesome pleasure, with the ever present idea of "giving" behind their efforts. In these, also, congenial families and friends were combined, in order to keep the feeling of intimacy in the concerts. The programs of these concerts varied according to the children's plans. Sometimes they consisted principally of singing and dancing; sometimes all forms of their activities were introduced, and sometimes the programs consisted entirely of original compositions.

After the children had had experience in playing for their families, I asked the parents to bring

friends who, they thought, would really enjoy our concerts, and the children seemed to grow quite naturally into playing for larger audiences. As a precaution, I requested the parents and friends (in the children's absence) to guard carefully against telling the children that they played well, but rather to speak of their enjoyment of the numbers played, keeping the children's minds on the pleasure-giving side of the concert.

The kind of recitals that teachers give determines, to a large extent, the ideals of the general public in regard to the musical training of children, for it is through recitals that the teacher reaches out beyond her studio. I look forward with eagerness to the day when family concerts are the fashion, and when one's attempts at playing are not discouraged because one cannot play in public; when fewer students are motivated by the dream of virtuosity, and more people, everywhere, play for the love of it.

PART III

THE OUTCOME

CHAPTER X

THE PLACE OF CREATIVE MUSIC IN EDUCATION

WHAT is to be the outcome of all this? The aim of "Creative Music" is to place the child in such relation to the manifold Art of Music as will enable the study and employment of that Art to serve in its fullest capacity the purposes of education. A complete education demands the development of the greatest possible independence of thought and action that is consistent with the finest social adjustment; it also includes technical skill, wholesome direction of the emotions, and appreciation of beauty. If an individual's knowledge and powers of thinking have been so developed that he has the greatest possible independence of the thoughts of others; if his own mental and physical and spiritual resources are so great that he can be free to act as he thinks, and if he has the skill to do it well; if all this power is balanced by the finest social adjustment, with all that that phrase implies; if he has a keen appreciation of

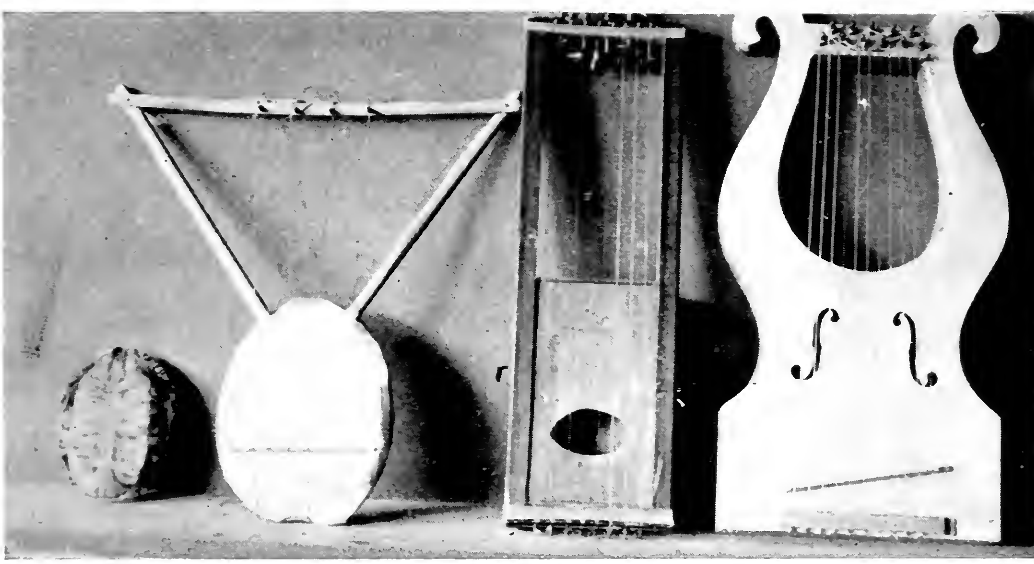
beauty; and if he directs his emotional force into channels of wholesome expression, then that individual's education has prepared him for living.

All that we do for our children is, in some way or other, meant to enrich their lives and prepare them for the experiences which life has in store for them, and most of us feel that musical training comes in for a share of that preparation. But I wonder if many of us realize how largely the Art of Music, in its broad sense, can contribute to education. It has a power of its own that no other art or study can claim—a power so elemental that even animals are affected by it, and the child too young to notice any other art is strongly influenced by music. At the same time it is the most transcendental of the arts, through its abstract quality being capable of lifting the mind and emotions to higher planes of thought and feeling. Its force is so deeply rooted, so powerful; its history so interesting and its field so wide; it has such manifold resources and crosses so many other lines of man's growth and achievement, that I can think of no other study so rich in possibilities for the development of the individual and society.

In my efforts to make music serve the purposes



27. A Psaltery Duet



28. Four Stages in Our Development of the Lyre

of education I have not lost sight of the fact that childhood is short and that there are many other things of great importance in the child's program; and out of the large field of music's development I have endeavored to select those things which are essential to a comprehensive understanding and those which will give the most in return for effort and time expended on them. In this chapter I shall take up the different phases of the work and discuss some of the educational results which I hope to have children gain by each phase.

I—*The Making of Instruments.*

When the idea came to me of having children first employ activities suggested by the course of primitive man in music,[1] at the same time came the thought that they would have to make their own instruments, for of course primitive man had to make his instruments, and it would be impossible for us to know what early man knew, to feel what he felt, to discover what he discovered,

[1] This work does not attempt to support or discuss the once popular Recapitulation Theory. The natural evolution of music, however, does give a line of progression from simple forms upward, which is especially suited to the growing capacities of the child. This historical background has supplied the field from which I have selected material according to the child's natural reactions rather than according to any succession of race experiences, and with no concern about the disputed points between musical historians.

or to develop as he developed, unless we also used our hands and found out through experience what were his problems, his discoveries, and his joys. My experiments have strengthened the belief that this form of work contributes to real and basic musical development and to the child's broader education as well.

A child's hands are the tools with which to build even his mental structure; they ache to be making something, and his mind is never so active as when his hands are doing a piece of constructive work that interests him. Every nail a child drives and every stroke of his saw is building up his mentality and character as surely as the instrument is being made. The value of constructive handwork, and of action in every phase of his development is emphasized by all modern psychologists and educators, and they are agreed that brain learning which is not coördinated with hand learning misses the greater part of its power. Of what avail is it for the brain to conceive an idea if the hand cannot bring it forth in living form? Thought separated from action is more than useless; it encourages a wasting of emotional power.

Children possess the healthy instinct of constructiveness. They love to handle materials and

tools, and to effect changes in material. When a child makes an instrument, the activity supplies its own drive. If the motive behind the work is something outside the piece of work he is doing, he is subject to the distraction of that motive. But in the manufacture of an object which he is going to use, the motive is held together in the very work under his hands, and this drive, inherent in that special activity, carries it forward. To make a musical instrument strikes an elemental note that interests—that fascinates—every child. I have never seen children show greater delight in any constructive work than in the making of musical instruments. The eagerness to know how it will sound, and the creative joy of making something with a voice—something that will "talk back" to its maker—can not accompany the making of many other things.

The thrill of successful accomplishment in instrument making stimulates other creative work to a remarkable degree. The child naturally feels that if he has made such a wonderful and useful thing as this, of course he can make other wonderful and useful things. And since he has made his own instrument, how natural to want to make up his own tunes to play on it! Any child loves the

object of his own handiwork. When he has made a musical instrument he loves to handle it, to play on it, to improvise on it, and thus a subtle intimacy is established between the child and his instrument that goes over into all music—for his work covers all types of instruments. His close relationship to music is preserved, for these activities keep his instincts involved in his musical experiences, instead of having some form of musical knowledge superimposed upon him.

In the making of an instrument, gratification comes at every stage in the process; every strip sawed to the right length and glued where it belongs, every surface sand-papered, gives him a realization of something accomplished, and the "why" can be realized at every step. Not only does he feel joy and self-respect in having constructed something useful, but he is also conscious of a power which is a wholesome outlet for his natural egotism. If a child's wish to feel his own power is not realized in constructive work of some kind, he will usually "take it out" in feeling his power over other people, or, perhaps, over the cat.

When you first learned to cook an egg and make toast, you probably experienced a feeling of great independence. No matter what happened to the

cook, now, you would not starve; and it probably stimulated you to want to be even more independent. This feeling comes also to the child who makes his own musical instrument. If all the violin makers in the world were to quit work, he would not want for a fiddle to play, and he is also quite independent of the price of violins. Thus his sense of independence grows.

By the time he has made all types of instruments he knows their mechanical construction, and also the principle of the mechanical construction of all modern orchestral instruments and how they were developed; and knowing them, he values, appreciates, and enjoys them more. In varying degree, according to the child, he has acquired mechanical skill, hand control in the use of tools, and also accuracy in handwork, for in many instruments the parts must fit together with great accuracy—"just so"—if the instrument is to be a success. He has exercised both persistence and patience, for many instruments require a long time to make, with intervals in between for the glued parts to dry. Of his own accord he has employed his power of concentration. One has only to watch a child at work on an instrument to realize how thoroughly his whole being is concentrated on what he is doing.

"It is intense effort which educates," as Thorndike says.

Work of this nature rouses and stimulates the child's love of mental adventure. He has the right to develop his own resources through exploration and experiment, and this opens the way for him to the discovery of facts. These experiences offer training in general principles which he may broadly apply, and such experiences tend to make him better able to attack new problems and manage them to a more successful issue. In this constructive work one of the problems he must meet is that of material for his instruments. Primitive man did not have access to a factory for ready prepared material and neither have we. The child must use his imagination and see in the everyday things about him, material which he can adapt to his needs. If the butter tub is not empty, he must find something else; and if a coffee-can is all he can find, then he must contrive some way to make that answer the purpose. He must be resourceful in adapting simple means to useful ends, and keep his eyes open. When he goes to the woods, especially, he must be quick to perceive a musical possibility, for that is where primitive man found his richest treasures. As his experiences progress he will understand the



29. A Modern Kin of the Old Chinese Type



30. Barney Tries His New Cocoanut Banjo



31. The Use of the Movable Bridge is Discovered

problems of early man; his powers of exploration and discovery will be enlarged and his thinking power stimulated. Since he must invent in order to accomplish, he must maintain a practical, inventive attitude. As he feels his way through the Science of Music, testing and applying what he discovers, making experiments in the Physics of Sound, he must maintain an experimental attitude; and taking cognizance of a new world of possibility open to him, he "learns by doing" and by definite thinking. His thoughts take visible form in his instruments, and he can test their validity impersonally. The satisfactions of accomplishment are a drive to further action. The man who builds a bridge of stone for himself and others to pass over, will never be content to be a mere dreamer.

The construction of musical instruments necessitates the intelligent correlation of music with the physics of sound and the manual arts. It also touches the history of different peoples, their practices in instrument making, and the world's geography and natural resources. The more a child's knowledge and experiences in different fields are brought into harmony and correlated each with the others, the broader and more unified his education becomes, the deeper is

his understanding, and the better his adjustment to life. I know of nothing which more directly and perfectly correlates art, science, and industry than the making of musical instruments. The craftsman who would make a musical instrument must know something of the art before he can plan the style and capacity of his instrument; he must know something of the different kinds of woods, strings, etc., before he can wisely select his material; he must know how to use his hands and tools also before he can construct it; and he must know something of science and must apply its principles before he can "make it work."

II.—*The Use of Primitive Instruments.*

The thought of using primitive instruments came to me in response to an urgent need for some way to gratify the little child's wish to make music. And I found that it did gratify his wish—his love for playing them even exceeded my expectations. One day in the studio little Katharine, aged three, realized that she could play on the glasses, with correct rhythm and melody, the first two phrases of "Hop my Pony." She beamed with the satisfaction of real accomplishment. "Let me do it again!" she exclaimed, and when that was finished,

"Again!" she begged. I stood near and let her do as she wished, and without a word from anyone, she played it all through fifteen times without stopping! But this is only one of countless instances that indicate the little child's love of making melody on simple instruments, and his persistence in musical experience. Everyone can see the importance, says Thorndike, of "being able to be satisfied by the good elements of what one produces" in the process of learning. I feel that such satisfaction in accomplishment is especially valuable to little children.

One's real development always comes from experience. Musical experiences are essential to musical growth. Those of us who merely listen are not the musical ones; we must handle the materials and make the sounds ourselves to be musical. But, of course, so long as the piano and the violin are the only instruments we teach our children, then the very young child—excepting, of course, the especially gifted one—must stand outside the pale of instrumental experience, and look on with hungry, longing eyes, or else try it with unhappy results. But if we give him music which is within his own grasp instead of expecting him to understand ours, we shall find him an enthusiastic

player. And he *needs* to play while he is yet too young for the difficult instruments.

Modern psychologists attach a great deal of importance to the influence of the first five or six years of the child's life, for during that time is shaped the pattern for his emotional life. Music touches our emotions more deeply than other arts or studies, and the music of the first five or six years should be so planned that the child's emotions and his attitude toward all music will result in the most wholesome development. The influences in his life at this age determine, perhaps in greater measure than we like to think, the things that will move him most and stimulate him most; they determine his tendencies of mind and his attitude toward things. The preservation of the child's natural enthusiasm for music greatly accelerates the development of skill; and later on, this enthusiasm will carry him over that stage of acquiring technique, which would otherwise seem to be the dullest routine. Since the acquirement of skill and understanding is so influenced by one's attitude towards the subject, and since the attitude is established so early, we can easily see how important is the training of these first few years, especially in music. Often, without our knowing

it, there is formed in childhood an attitude towards music which greatly hinders musical power in after years, and sometimes even destroys enjoyment of the art. The acquisition of facts, such as the multiplication table, can come at any time, and it has been proved to us that a child can start his academic education at nine years of age and soon catch up with the child who had several years the start of him. But his tendencies and emotional reactions begin early and must be carefully guarded. This is the time to form habits of musical expression, to establish associations and give experiences that will link up with other fundamental experiences and make music something vital and tangible for him. This early intimacy with music he will never lose, and it will be a means of happiness and comfort to him all his life.

These early years of the child's development correspond to the stage of primitive music and the simplest of instruments. The music of the childhood of the race belongs to him while he is yet a little child. This is the time he must sing and dance, and play upon instruments that make no technical demands, and only such melodies as his small brain can understand. His intellectual growth is gradual. As the simple elementary

capacities of his mind are enlarged by experiences suited to those capacities, we can gradually lead him to larger and larger musical experiences. But if his musical education is to be at all effective, it must suit his capacities as determined by the stage of his development.

The art teacher does not give a child a stretched canvas to paint on, but the simplest smooth surface she can find—a big sheet of paper or a sidewalk or a blackboard—and there the child freely expresses, in bold grotesque figures, the primitive art that is in him. The drawings of the six-year-old child show him to be in a stage of artistic development analogous to the stage of tom-toms, simple pipes, and most primitive stringed instruments. His musical as well as his drawing experiences must be in the stage that corresponds to his general development.

Heretofore in most of our instrumental training for children, we have forced the child to skip a very important and a very broad stage in his indigenous musical evolution. We have urged him while still in swaddling clothes to take on adult culture, as one who would try to teach a savage to drive an automobile before he has had any simpler experiences with machinery. The use of primitive and



32. A High Bridge is Added and the Banjo Becomes a Fiddle

other instruments may fill this gap so that no links are missing in the chain of his experiences from his most rudimentary capacity as an infant to his full-grown adult powers.

It has been my aim to make music so simple that every child may be able to play. The Greeks have shown us that the use of music may be made universal if it is only simple enough; and if we ask for essential simplicity, we too may make music the possession of many—not the privilege of a few. But its present complexity of training keeps all but the veneer away from the masses. Why should singing or dancing or playing be reserved for those who seem to have a special gift? Every child should have much experience in all three of these things. The possession of talent may be a large factor in *what* a child shall play, but certainly not in *whether* a child shall play. It is my belief that somewhere in the wide scope of music, somewhere along the path of its development, there lies an instrument suited to the capacity of every child—of everyone, for that matter—if we could only find it. What better way is there to find it than to have the child follow the entire path from the very beginning? And if his natural capacity for musical experience is so limited that he

cannot find pleasure in playing anything more difficult than the drum and a tin fife, then those are his instruments; let him play them until, by growth from experience, he is ready for something a little more advanced. And experience *will* develop his capacity and lift his musical level.

Mr. Seashore has made a valuable contribution to the musical field in enabling us to find even before study, whether or not a child has the keenness of sense discrimination that will justify specialized musical training. He has also pointed out that the power of sense discrimination (in pitch, for instance) cannot be much improved by training. Other psychologists also claim that sensory discrimination cannot be greatly improved beyond a certain point by training. Mr. Seashore's contribution will probably save much agonizing over instruments ill suited to one's capacity, and much time uselessly spent, for it is evident that it is useless to expect some persons to play certain instruments that require keen pitch discrimination, as for instance, the violin.

But does it then follow that these less gifted children are to be denied all musical expression? There are instruments that lie wholly within their capacity—instruments with fixed pitch and requir-

ing no great keenness of sense perception and no great technical skill to play. This is the field for them. Why not let them occupy it? If a child's sense of perception in music is very low he may be barred from high artistic expression with all types of wind and stringed instruments, but there are still left for him the percussion instruments of fixed tone, and the experience of making and experimenting with wind and stringed instruments. There are also many stringed instruments which, when already in tune, require no great keenness of ear to play.

The child of no talent needs to play as much as anyone else; sometimes his need is greater. Moreover, who can say to what extent musical capacity can be cultivated, if we only begin early enough? I believe that it is only a matter of degree, and that every normal person has some capacity which can be enlarged if we find its level and build upon it from that point, especially if we start very early in the child's life. In my attempts to make music simple enough for every child to experience, one of my greatest compensations has been in seeing the so-called unmusical child beam with pleasure when he finds that he can really play something—when he sees that music-making is not a hopeless thing even for him.

It is my opinion that too much ado has been made over the talented children, and that the others have been too much neglected. Consequently, we usually find the talented child with an over-developed ego, and after all, not any happier than if he had had no talent. Professional musicians are growing more and more numerous and simple home-made music is quite out of fashion.

Dr. Grosse (in *The Beginnings of Art*) states that "the sense of rhythm has undoubtedly been developed through the primitive instrumental music." It has been my observation that the use of such instruments is of great value in cultivating not only the sense of rhythm, but the tonal sense as well, and is a definite aid in the child's control of his singing voice.

It is by the use of these simple instruments that very young children can have their first experiences in ensemble playing. I find that some children as young as four years of age adjust themselves well to the playing of others, and all children love ensemble playing. A grown-up orchestra would scorn the use of such instruments as flageolets, ocarinas, and psalteries, but these things have their place in the music of the world, and should

be used where they best serve their purpose. They belong to childhood.

To some who have not employed training of this kind for children, it may appear that the use of primitive and crude instruments may retard the development of the child's sense of beauty; it may seem out of keeping with the present day idea of surrounding the child with perfected forms of beauty of all kinds. But in reality I have found only cultural effects. The fact that the instruments are constantly progressing toward more refined means of expression seems to give even a very young child the impetus of reaching toward an ever-growing ideal which is not so far above him that he can not understand it. The progression of these instruments is also responsible for a keener appreciation of the difference between the crude and the refined, and the child who follows this progression comes into an appreciation of the higher forms of music that is wider and more discriminating from being based on experience in all the stages leading thereto. The enjoyment and appreciation of any art is greatest when it is based on active and intelligent experiences in the development of that art, and my experience has led me to believe that the children who follow the

intellectual processes of music's development will also show a similar development in taste and appreciation of beauty.

Literature has its Mother Goose, that children may enjoy things suited to the childish mind. Primitive songs and instruments are music's Mother Goose, not for museums and collectors to hoard, but for children to enjoy.

III.—*Why Creative Music Includes all Types of Instruments.*

No attempt to give the child a real understanding of the development of music would be effectual without giving him experience in the use of all types of instruments. His intellectual understanding of the wide scope of the art, of how it grew from small beginnings, and of how our modern instruments were finally evolved, depends upon the actual use of these instruments. The Physics of Sound in its varying manifestations has a practical meaning for him if he uses the materials that demonstrate its principles. His experiments will enable him to hold a scientific attitude towards music as a science, while his use of the instruments will at the same time foster an appreciative attitude



33. The Bird's-Nest Lute

toward music as an art, and enable him the better to appreciate and enjoy all beauty.

By using all types of instruments the child's interest naturally goes out to the people who first developed each type, and a wide correlation of other subjects may result.

How better than by experience in the use of all types of instruments can the child come into an understanding and appreciation of modern orchestral instruments, and orchestral music? To have known and maintained pleasant relations with a person's ancestors gives one a feeling of intimate understanding of the person himself, and an affectionate interest in him. The same thing holds with musical instruments. The child who has made a wheat-straw oboe and played upon it will recognize the same reedy quality of tone when the modern oboe appears in a Dvořák Symphony, and the kinsmen of his cigar-box fiddle will speak to him intimately from the violin stands. In the presence of the great Orchestra he is in a beloved country of familiar voices where more than he could ever dream, comes true.

Perhaps the most important result from having a child use all types of instruments is that of enabling him to find out by experience—the only sure way—

what is his most congenial instrument. Many a child wastes hours of labor struggling with an instrument for which he is naturally unsuited; whereas the right instrument would give him greater joy with less effort. Even aside from their physical and musical capacity, children, as well as grown-ups, have individual preferences in regard to instruments, and experience with all types will make it possible for the child to choose intelligently that one which appeals to him most. It is of as much importance in one's artistic life to find the right musical instrument as it is in one's business life to find the right vocation.

By following in one's playing the development from simple to more complex instruments, the coördination of hand and mind is more complete, and the development of this coördination, as well as one's musical growth, is more natural and thorough.

Varied musical experiences lead to generalizations which are full of meaning. In this phase of Creative Music there is obtained a Positive Transfer of Training, because the experiences overlap and strengthen the associations. Principles once learned may be applied in many different ways. A melody is not associated with any parti-

cular instrument; it is an arrangement of tones as to pitch, rhythm, form, and feeling, that may be applied to different kinds of instruments. In studying the tone qualities of different instruments, the ear is developed to its greatest acuteness, and in trying out different melodies in different qualities of tone, the sense of fitness as to music and instrument and the selective power are exercised.

Another consideration is the variety in skill to be thus obtained. To cite an example: One day I gave a new song to little Margaret, aged seven, and timed her by the clock to see how long it would take her to learn it perfectly. It was a little English folk song of four phrases, and I taught it to her by rote, as she knew nothing of note reading. In nine minutes from the time I first began singing this song to her, she had learned to sing it perfectly and had played it correctly, without a single inaccuracy as to note or rhythm, on nine instruments, namely, the glasses, Swiss bells, sleigh-bells, psaltery, lyre, flageolet, fiddle, harp, and marimba, transferring the melody just as easily to one instrument as to another. This was by no means an unusual effort or feat. At this lesson I just happened to time her from curiosity.

It is interesting to watch Bill—aged five—make

his first attempt at applying a newly learned melody to different instruments. By watching the movements of his hands, you can almost see his brain working; see him correct a false movement before the note is actually sounded, and hurry to the next to catch the note on the proper beat, perhaps stopping a moment and humming to clear up a difficult phrase. The look of complete absorption on his face convinces you that his intelligence is back of every movement, and that his attention is held by natural, self-driven interest.

If the study of different instruments were more universal, the members of a family would have an opportunity to strengthen home ties in chamber music combinations, group playing among friends would be the source of untold pleasure, and sensational "movies" would not be such a frequent necessity in the lives of young people. It is by the diffusion of the knowledge of all types of instruments that we will be able to furnish a wholesome and constructive emotional outlet for everybody.

In this connection I wish to give the division of *Wind Instruments* a special paragraph, for they have, as I believe, a particular value in education and have been especially neglected. To play any breath-blown instrument well, requires breath control,

which means conscious or unconscious control of the diaphragm, intercostal muscles, and other muscles of the trunk and chest cavity, and these are not directly involved in playing percussion and stringed instruments. Breath control makes self-control easier. One of the most direct ways of gaining poise, equanimity, and serenity is by proper breath control. The Hindus have for hundreds of years recognized this truth, and as we know, have accomplished marvelous things through the use of that knowledge.

It is said that horn and trumpet players are longer lived than other people, no doubt because of the power of these activities to keep the lungs in fine condition. In this connection I recall an incident which seems to indicate that even a limited use of wind instruments increases lung power. In a certain school the breathing capacity of all the pupils was taken. Two of these children, in different grades, had had experience in playing upon simple wind instruments in my studio, and each of these made the highest record for lung capacity in her group. There were no apparent reasons why this should have been so except the fact that they had had those musical experiences.

Wind instruments have a sympathetic power

that seems almost human. Next to one's own voice they respond most quickly to one's feelings, being operated by that great companion and servant of the emotions, the breath. A unique personal intimacy is established between the player and the instrument which he plays by the power of his breath.

Wind instruments require that full attention be paid to the tone, especially when one is just beginning to use them. The breath pressure must be regulated to meet the requirements of the tone, for variations in pressure affect not only the volume, but often the pitch. So mental concentration is necessary as well as careful listening. In playing the ocarina, for instance, the child must "think the tone" which he wishes to make, and adjust his breath force to make the tone true to the pitch he is thinking; otherwise he may be playing a half-step out of tune. It is interesting to observe that if one "thinks the tone," the breath pressure seems to adjust itself reflexly for the production of that tone.

All this probably sounds difficult for a child, but in reality children seem to adjust themselves to the requirements more easily than grown-ups; their reflex responses seem to serve them better,



34. There is a Time and a Place Even for the Cornstalk Fiddle

and it is surprising how rapidly they acquire the necessary power of control if they begin on instruments that are simple enough. Besides, when a child begins wind instruments he has already had experience in playing.

The contribution which these instruments make towards acquiring coördination both in the physical and the general sense, is very great. I have in mind one child of eight years who had naturally very poor physical coördination. Her first attempts to play the flageolet made it seem quite hopeless. The instrument which, in playing position, must be held up by the fingers of both hands, with one end in the mouth, constantly fell into her lap, for her lips and hands seemed quite unable to operate together. But soon the lips learned to do their part, and gradually were added breath and finger control, and now at ten years of age, after having made and played upon all types of instruments within these two years, she has chosen a wind instrument, the flute, as the one she loves the best of all.

In the use of all types of instruments technical training is deferred.—Specialized training has no place in the curriculum of the young child, and this is particularly true in music. Five finger exercises

and scales are the bane of the existence of many children who, because of these things, are slowly but surely building up negative reactions to something that could yield them great service and happiness if those reactions were positive.

The child sees no reasons, other than superficial ones, for technical exercises; he has no instinctive impulse towards them and they are not elemental enough to interest him. If the child's experiences are to be truly constructive, they must be motivated by desires from the inside, not from outside persuasion; if he has no inner urge to acquire skill in playing an instrument, the time he spends in practice is more than wasted, for it warps the music that is in him.

The spontaneity of one's playing always suffers when technique has to be considered. Of all arts music is the most spontaneous, and in that very quality lies much of its power. But neither a child nor an adult can play freely, feeling what he plays, and playing what he feels, if he must think of hand position or mode of attack, or of how to manipulate several fingers at once. When simple instruments are used, no special technical training is necessary, and any fairly well coördinated child has all the natural technique that is necessary in

playing these. As he progresses to more difficult instruments his power grows with them, and when he reaches something that is hard to do, he naturally wishes to practice it until he overcomes the difficulty, and makes it go as easily as his other playing. Specialization should be the last stage in the child's training in any subject, and in music there is yet time enough for it after the child has been saturated with all kinds of musical experiences—when, backed by intelligent understanding, he has chosen his special instrument.

It is a sad sight to see a child of any age struggling with something that was meant for older hands and minds, even though he may be able to effect results. What will it profit a child to be able to play a Beethoven Sonata at the age of ten if it means that he has been given artificial stimulation and has spent hours of weary practice in order to do it? Many bright children may be drilled to do this, but it does not always mean that Beethoven will be a joy to them twenty years later.

The musical training that permeates the heart is the training that is going to stay. The *wish* to play, the *disposition* to inquire further into music, and the *habit* of finding joy in the making of music are the things which will make the child musical,

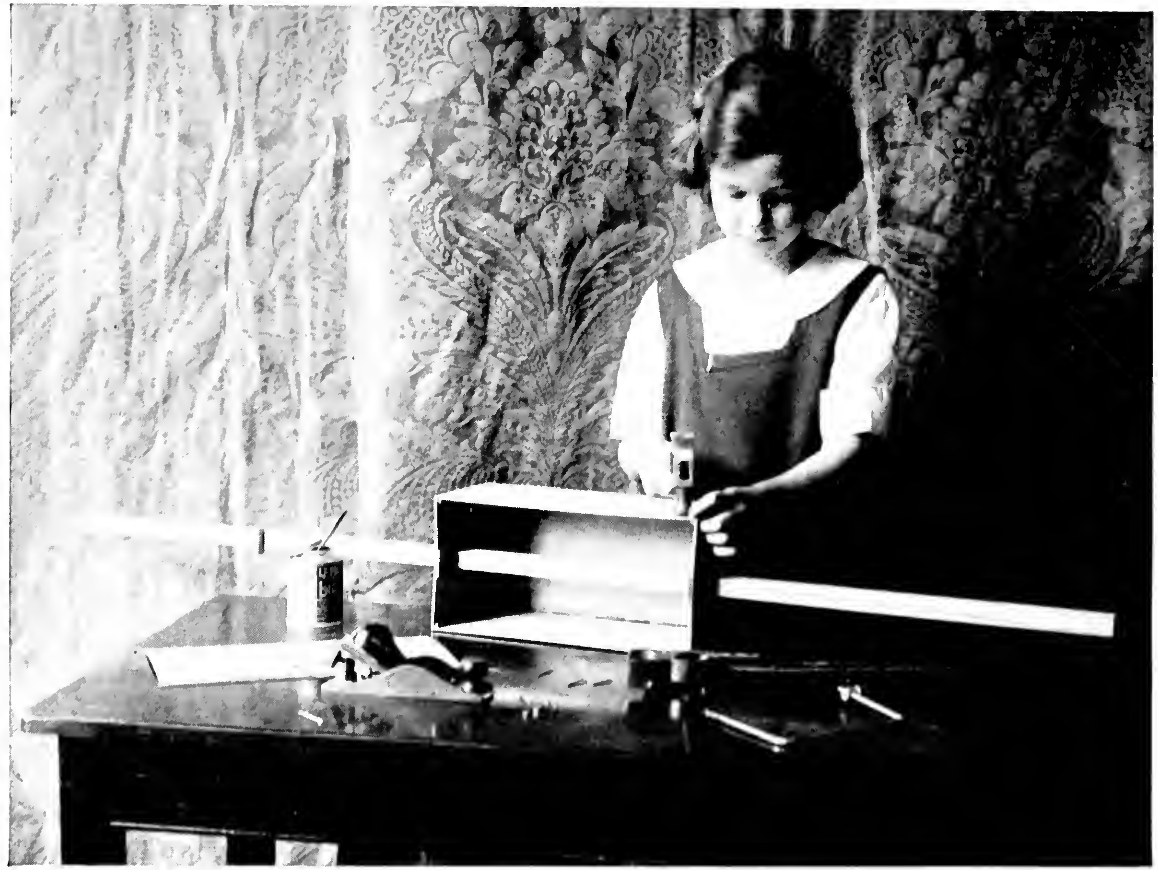
and not the technical skill that is drilled into him. If his love for playing is fed now, then later, after he has chosen his special instrument, he will see a reason and feel a desire for technical skill, and it will come easily because it will be motivated by its own inherent drive.

IV.—*Dancing.*

The reasons for incorporating dancing in my music lessons were given in an earlier chapter. No one in these days has to be convinced of the educational value of Folk Dances; and dancing in its best sense has received so much encouragement from educators during the last twenty years, its beneficent effects have been proved so often, that it is not necessary for me to dilate upon its value.

If one should ask how the special form of dancing indicated in Chapter V as a part of "Creative Music" serves the purposes of education, perhaps my first answering thought would be: It reunites twin-sister arts that have already been too long separated in early training; it gives to music its own natural foundation; restores the primeval intimacy of man and music; and unifies Art, Spirit, Mind, and Body.

Since music began with rhythmic movement,



35. Alva's Cello Gradually Takes Form

and has developed as a part of the dance and contributing to it, the presence of one always suggests the presence of the other. The child who has dancing experiences from the most elementary forms upward, is made more susceptible to music, and together the two arts may develop in him as one art, founded on the original, generic basis of rhythm. These experiences make it possible for him to preserve the natural inborn rhythmic sense and to develop his musical instincts in natural order, instead of forcing them too soon away from their native soil. First without form, then with gradually more and more formal complexity, the two may be correlated in every stage of development, each one helping and sustaining the other.

To reach a complete understanding of music, one should have personal experience with dance rhythms and forms. One can feel the fullest intellectual and emotional response to a musical composition only when it is possible for one's nerves to add from former experience, a "motor interpretation and exhilaration."

Dancing involves great activity of both mind and body, and is perhaps the best illustration of mental and physical coördination. A well developed

sense of bodily rhythm also enables one to apply rhythmic motion and to conserve energy in many other manual activities. (See page 87.)

Physical poise is a habit that can not be better acquired than through dancing, and this, as naturally as water flows down hill, reacts on the mind, generating habits of mental poise. Self-confidence is another result; and conservation of energy through precision of movement. The advantage of physical freedom which dancing gives can hardly be overestimated, for an awkward, constrained body is hampered at every turn, in every phase of living. The nervousness of many musicians might be accounted for by their habits of concentrating on only one form of musical activity, and much of their tension and lack of poise could no doubt be counteracted by dances which would involve the entire body in muscular coördination. Habits of dancing, too, formed in early childhood and continued through youth and maturity, keep one young in mind and body and spirit.

For the discussion of the educational values of a few especially mentioned exercises in the phase of "Creative Music," related to bodily training, see pages 93 and 94.

V.—*Singing.*

That singing is a wholesome activity for people of all ages, no one will deny, and that it is a necessary phase of the child's musical training, most educators believe. In Chapter V I have tried to show that the child's singing should begin as early as possible, progressing hand in hand with his other musical experiences and directly correlated with them.

In the earliest stages of music's development, singing was closely associated with dancing, and later, when instruments came into being, singing was king and the instrument only a subordinate. Song was also the medium for the expression of rhythmic language.

There are many experiences which come to us that can not serve us constructively except through singing, and many emotions which the child can not wholesomely express except through singing. No one can measure the amount of inspiration and stimulation toward endeavor that the child's own singing gives him. It also gives him intimate experiences in beauty, and a consciousness of his power to create beauty. An example of the early enjoyment of song expression in the child's own

voice came to my notice recently when a baby of fourteen months sang the first line of *Three Blind Mice* over and over, her facial expression showing that she loved the sounds of her voice, even though she could come no nearer the words than to suggest them by the vowel sounds of e and i. Singing gives the child an appreciation and enjoyment of beauty that involves his mind, body, and feeling, and nourishes the power to create beauty, not only in reproducing songs of others, but in making songs of his own.

If his singing begins early enough, he establishes a freedom of the voice which gives him much pleasure in after years, and leads to a wider freedom of mind and body. The healthful aspect of singing is too well known to require discussion here.

The correlation of singing with his other musical work from the ground up, in connection with his use of instruments, makes the child's musical development consecutive, easy, and logical. It is an aid to voice control in those children who have difficulty in singing, and supplies a natural means of teaching children to play by ear. It cultivates accuracy of voice, acuteness of ear, and habits of listening; it calls into use the full power of one's

sense of pitch, and helps the child to an intellectual appreciation of what he hears.

The use of the simplest song forms makes it possible for every child to sing songs of his own world, and also gives every child melodies which he can play, no matter how low he stands in the scale of musicianship. Following these with the recorded folk-songs of childish peoples, and gradually taking up those of peoples whose musical feeling sought a wider range and more complicated expression, the child naturally becomes saturated with folk-song literature, than which no better preparation can be given him for an appreciation of the world's greatest music.

VI.—*Original Composition.*

One of the most characteristic results of this plan of musical training is an impetus toward original work. Since the creative power is exercised from the beginning, and in every phase of the work—in dancing, singing, language, in the construction of instruments, and in playing them—the child forms very early the habit of improvising, and is not daunted by a suggestion to improvise upon any instrument that he knows how to use. For it is my belief that improvisation, like singing and other

powers which many people consider as special gifts, is the outcome of early habits; and the child who begins in the earliest stages of his musical development to improvise songs and dances and instrumental melodies, will grow as naturally into it as flowers turn to the sun, for the joy he takes in original work is all the stimulation he needs. And it is not difficult when one begins at the natural beginning.

It is much easier for a very young child to improvise than to learn a set melody. All children love to do it, and it is a very simple matter to guide their haphazard experiments into tuneful form. Like all their other powers, this power to create also grows and becomes more refined, and their compositions gradually take on more pleasing forms and greater variety. Dances, rhythmic words, melodies alone, and songs combining words and melodies, give them a wide field for original work, and children love each phase of it. It gives them a sense of power which they love to exercise, and not only do they enjoy their work, but these experiences make them feel a keener appreciation for other and higher forms of music.

Quite consistent with our unnatural ways of teaching music, many still think of composition as

a very advanced stage of musical work, and to them, the study of Harmony and Composition means that the student has gone into one of those far away, abstract fields into which the average music pupil may never hope even to glance. But this is only another case of our inversion of the natural procedure in music. When the entire growth of music is examined, we see that composition comes before anything else in the line of playing. Primitive man improvised from the beginning—he had no music except what he created spontaneously—and but for this habit among later peoples we would never have had our beautiful folk-songs. Improvising in song and with his instrument came naturally and easily to primitive man and this is still the case with savages of to-day. Children, too, have this power in their early years, but it often becomes atrophied from disuse, or blocked by too much formality in their training. I know a professional musician who, as a child, improvised and composed lovely things, but who lost that power after years of advanced study, and she confessed to me that she felt that so much study of the compositions of others, to the exclusion of original work, had really destroyed her natural gift for composition.

Even while writing on this book, a case has come to my knowledge which is so pertinent that I venture to give a few of the facts relating to this young woman who is now a brilliant pianist of New York. At four years of age she played freely at the piano without any training whatever, and was considered a phenomenon. At five she improvised constantly, and composed a sonata and other things that were published. She was examined by several of the foremost musicians of the day, who pronounced her a second Mozart. She played throughout her native state (still at the age of five) programs of her own compositions. Through the force of circumstances she was without training, except for a few scattered months, up to the age of thirteen, and during this time she continued to improvise, and to compose consciously, her compositions showing a natural and healthy development of idea.

From her thirteenth to her eighteenth year she was with two teachers of international reputation and was given the best possible pianistic training according to the highest ideals of musical culture. She was grounded in German text-books of musical theory, and was saturated with musical classics and with all phases of the world's best musical



36. The Beginnings of Chamber Music in the Family



37. A Cello and Two Monochords Serve This Trio in Their Chamber Music Combinations

literature. For the first two or three years of this study her creative impulse persisted, but gradually faded and died out. Although her pianistic and interpretative powers have grown to a marvelous degree, her great creative impulse was entirely crowded out by her study, and has never returned.

Can it be that the strength of the creative impulse in the old masters was due to the fact that there was not so much musical literature for them to feed on? Shall we not think twice before we allow the child to consume all his mental power in studying the works of others, and leave no strength or time for his own creative work? Will it not mean more in his development to be able to create one lovely composition than to know accurately the details of all that Chopin ever wrote?

VII.—*Ensemble Playing.*

I know of no activity which can be more potent in the development of citizenship or has more to contribute to the real aims of education, than children's ensemble playing. This form of musical expression requires a fine adjustment to others, and at the same time, the most careful individual effort. It makes the child stand on his own feet and preserves his independence, while it fosters

the idea of unity in common achievement. His independence can not be bought at a sacrifice of the total harmony, but at the same time, the total harmony depends upon the preservation of the individual. He must achieve by concentrated individual effort, and contribute the product of that achievement in the way that will best serve the common weal. He realizes, in a poignant way, his obligation to society when he hears the discordant effect which results from playing carelessly or inaccurately; when he plays correctly, he feels the joyous and wholesome thrill of taking part in the making of something beautiful. He obeys laws, but his individuality is expressed and his egotism is not fostered.

In ensemble work the child's mental concentration must be great, so that he will not be disturbed by what others are playing. Only one who has played or sung with others and sustained a part different from theirs, can realize how much concentration this calls for. Even when all are playing in unison, every mind must be concentrated on the work. If one child lags behind, nobody will wait for him, and unless he has the ability to "catch in" at the right place, he is lost, and must drop out. It has been most interesting to observe children, even little tots

of five and six years, go through the early stages of ensemble playing, and see their mental concentration develop under one's very eyes. At first they are often so disturbed by the playing of others that they stop after the first few notes and feel that "it's no use to try." Another effort perhaps brings them a little further, and they are encouraged. Soon they see a little fun in the combined sounds, and are interested to make greater efforts, and finally, when the melody is finished, and they have been able to keep abreast to the end, the exhilaration of successful accomplishment more than pays for all the work. Often I have seen a little child lose his place because his attention had been distracted for a moment, then by a conscious effort, bring his mind back, "catch in" at the right place, and finish with the others. (Of course only very short melodies can be used for ensemble work with very small children.)

When a child can play even a simple melody with a group of other children, without a single note out of tune or out of time, using his eye, ear, muscles, and brain in perfect coördination in contributing his part toward the creation of something beautiful, who can estimate the mental, ethical, and social value of it?

Confidence in one's power to work with others is an inevitable result of ensemble playing, and the joy one takes in it, broadens one's attitude towards group work of all kinds. For in ensemble playing the satisfaction is simultaneous with the effort, and naturally stimulates the love for group activities.

The selfishness of many children (especially that of the only child in a family) offers a great problem, and everyone knows how valuable is the companionship of other children in these cases. In ensemble playing, the selfish child finds the very best of what association with others will contribute to him, for it trains him subconsciously and without moralizing to experience the necessity and the joy of sharing with others.

The value of ensemble music in family groups—the ideal grouping—is discussed on page 206.

Ensemble playing seems to me to reduce to a minimum self-consciousness in playing. If a child plays a part that can not be singled out (except by his mistakes) he will forget himself in order to hear and to enjoy the harmonized unit to which he is contributing. Here, conspicuousness brings disaster rather than reward, and here might well begin the attitude of the philosopher who, though contributing much, will lose himself in the Big Unit.

To the average American, the only perfected form of ensemble playing is that of the Symphony Orchestra, and he has little appreciation for the very rich field of *Chamber Music.* The natural means to an appreciation of that intimate phase of art is the group playing of children, families, friends, or students. In some European countries where families are more given to playing together, this interest in small group playing has resulted in the creation of much chamber music literature, and a demand for its presentation. It is to be regretted that, as a rule, the musical audience in America demands either a soloist who is a star of the first magnitude, or else a complete orchestra, leaving out of account the small group of musicians whose ensemble may express even more of perfect art, and whose opportunity to educate the masses is even greater, because of the greater adaptability of a small organization and their concentrated power. The most thorough appreciation of chamber music and of orchestral music, and all other ensemble forms of the Art, is founded on an early participation in these forms by groups of children playing together—the younger the better—even though the instruments may be crude and the art may be primitive.

In summing up the ways in which Creative Music may contribute to the child's education and development, we find that it offers distinct contribution:

To his creative power,
To his power to think for himself,
To his general knowledge,
To his power to act for himself,
To his skill in controlling action,
To his wholesome employment of emotional force,
To his appreciation of beauty, and
To his adjustment to society;

and thus may it directly serve the true purposes of Education.



38. "Just to See How it Sounds Under my Chin." (This Picture was Taken When Elizabeth had Just Finished Making her Violin and Before her Left Arm had Adjusted itself to the



39. "The Soundpost Makes it Sing Like a Real One!"

CHAPTER XI

THE BEGINNINGS OF CREATIVE MUSIC IN THE HOME

The greatest opportunity in fashioning the child's musical life belongs to the mother and father. As a rule the music teacher does not come in touch with the child during the period of his life when she could make her work take deepest root, for by the time a child starts to school, his brain and nervous system have already received the impressions that will largely determine what his reaction to the outside world will be. Psychologists agree that most of our tendencies and emotional reactions are established before the sixth or seventh year. Those early years with all their vivid impressions belong to the father and the mother or to those who have the daily care of the child.

Any parent who has been interested enough to read the foregoing chapters will have thought already, probably, of many ways in which he or she could apply the principles of Creative Music to the

home life of the little ones. But I should like to add an extra word of practical suggestion.

In the first place, I think we should sing to children from their earliest infancy. More musical capacity comes through imitation (if the opportunity is given when the child is in the imitative stage) than many of us realize. I regret the passing of the old custom of singing babies to sleep, for I think there is something very vitally helpful to the musical sense in having simple and quiet vocal sounds of sweet quality penetrate into the child's subconscious mind in the state of sleep. His subconscious mind is already and constantly receiving various kinds of impressions that will play an important part in shaping his after life. Why not take advantage of the opportunity to give it impressions of beauty that can have none other than a beneficent effect? Observations of the reactions of little children to different stimuli have convinced me that a child reacts to beauty of sound earlier in his life than to impressions of beauty received through the other senses. Since the appreciation of sound is so elemental, education through his ear cannot begin too early. In a sense, his musical education *does* begin the day he is born (unless he is deaf), whether one wishes it or not, and

the most a parent can do is to see that the daily impressions made on the child's ear shall tend toward appreciation and creation of beauty.

I truly believe that it is possible for a child to receive from his mother and father in the home, in the first seven years of his life, musical training—without set lessons or practice hours—that will be of greater value to him than twice seven years' study in any conservatory after he is grown. If one or both of the parents are musical, so much the better; but even unmusical parents can do much if they are intelligently interested and patiently persevering. A deliberate formation of certain family habits, a watchfulness for opportunity and a readiness to convert things at hand into musical material, are all that are needed. But the coöperation of both parents is necessary.

It does not seem unfair, I hope, to place upon the shoulders of the busy man of affairs a share of responsibility in the personal musical training of his child. Too many fathers feel that their responsibility ends in earning the money to pay the bills for the musical education of their children. The father's personal coöperation, however, is worth much more than the money he plans to spend. Even if he can give little technical help, he can at

least let all who are concerned feel his sympathetic interest. To some prosaic men (and women too) who have forgotten all about the feelings and mental attitudes of their childhood, the natural musical development of a child would seem sheer nonsense and useless noise. Such an attitude on the part of either parent, by his or her mere presence in the house, casts a "damper" over the efforts of the other. All musical activity must be free and spontaneous, without any fear of displeasing anyone. The true spirit of the effort is killed by the presence of even one unsympathetic person, and if that person is the child's father or mother, or anyone whom he loves very much, it is quite fatal to the undertaking. Any musician knows how quickly his musical feeling and power of expression are affected by the presence of one who is intolerant or unsympathetic; and I have known many fathers who, from lack of sympathy with their children's efforts, have blighted, quite unconsciously, the musical powers of their children to a serious extent.

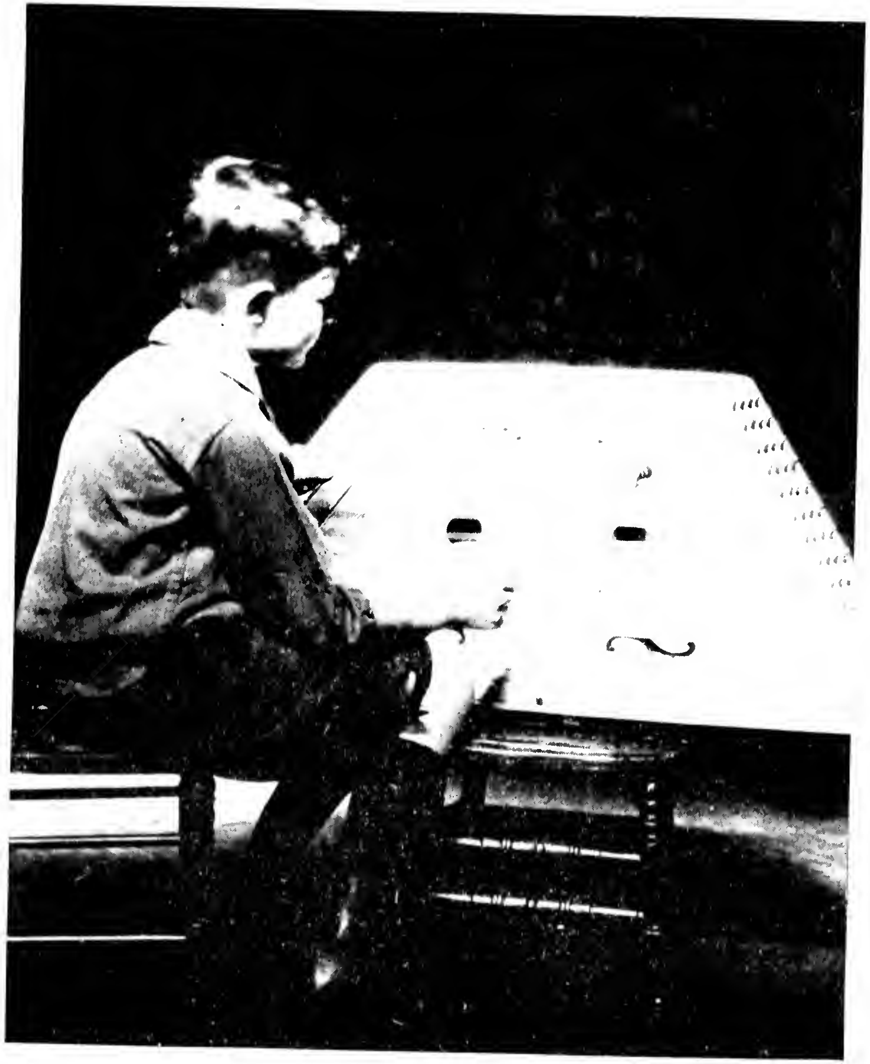
On the other hand, many fathers who are really sympathetic with their children's training feel that "rough-housing" is the only way they can play with them. This also is unfortunate. Such play

often ends in a tearful reaction from an excitement that is nervous and uncontrolled. No real development in song or dance can come through rowdy or riotous singing and dancing. Rhythmic play can be free and spontaneous, and yet sane and wholesome for everyone concerned. Baby games, such as "Patacake," "This is the Way the Baby Rides," and "This Little Pig went to Market" have real value in the development of the sense of rhythm, and have stood the test of time.

As soon as the child can stand well enough, he is ready for a fine ride standing on father's swinging foot. This gives the child experience of bodily freedom in rhythmic motion through the air, and training in muscular coördination as well. The strong-armed father who swings his baby rhythmically to and fro, is giving the child wholesome experiences in rhythmic feeling that will enable him to dance more freely if this early sense of bodily freedom is not counterbalanced by some experience that results in fear or constraint. In his outings with the child, the father has valuable opportunities to quicken the small ears to sounds of Nature, to keen perception and imitation of them; together they may learn bird songs—to know them and to whistle them; and so in numberless ways

the father may contribute to the musical education of his child, even without having had musical training himself.

Many mothers, as well as fathers, have felt a righteous comfort in making sacrifices to save money for their children's musical training "when they are old enough," and many have also been disappointed in the results. Perhaps the results would have been more satisfactory had a better foundation been laid before they were "old enough." Even the busiest mother has many opportunities to serve her child's musical education, not only while he is an infant in arms, but all through his childhood. She may sing to him and with him at all times, even while she kneads the bread and peels the potatoes. She has many opportunities to improvise duets with him or to let him beat a pie-pan drum while they sing or march from room to room on necessary errands. She can encourage him to dance daily, either with or without music. With his little broom he may help her sweep, and while actually removing the fallen leaves from the wide porch floor, keeping time with mother's broom, he may have a lesson in rhythm, muscular co-ordination, and adjustment. They can make beds together, and improvise songs of the "fluttering



40. Another Ancestor of the Piano—the Dulcimer



41. The Irish Harp, too, Belongs in our Category

sheet that must be tucked in." While mother mends, he can sit on the floor and tap rhythms with his blocks, to see which one she likes best, and sing a dramatic song of the tower that has to fall.

It is within the mother's power, even without musical training herself, to teach her children to play musical melodies as early as four or five years of age. With a little patience and experimenting, she may find several drinking glasses that have musical sounds when struck, and tune them to the notes of the major scale. Five or six glasses will prove enough in the beginning,—or even three,—and if she has previously taught the child to sing simple songs that lie within the range of these glasses, he will be delighted to find the melodies by ear and play them. The glasses should rest on a thick cloth, and should be struck with a cloth-covered, wooden hammer. I consider tuned glasses the simplest and most attractive instrument for a child's first playing, and surely every family in America can afford to give its children musical experiences in this.

As soon as the child is old enough to handle tools, the father or mother may guide him in the making of many instruments. I add below a few directions for simple home-made instruments for the benefit of

those who wish more detailed suggestions than is given in the story of my experiment.

With only a few suggestions from a parent many children will be able to make a variety of drums of things already at hand. Anything that is cylindrical and hollow can be made into a barrel drum if the edges are smooth enough to be covered by a skin or cloth or stiff paper, for instance a hat box, a round oatmeal box, a coffee can, a pail with the bottom removed, a section of gourd, section of hollow log, butter tub, mailing tube, all kinds of kegs, etc. The two ends are covered at the same time. A long, strong cord is drawn first through one skin and then through the other, thus producing the zigzag effect around the body of the drum. The cord should be drawn as tightly as possible before it is tied. If cloth is used, have it stretched very tightly over the ends before the shellac is applied (see page 42). If skin is used, it must be wet until it is quite soft before it is put on the drum. After the skin has been fastened by the cord lacings all around the drum, it should be drawn only moderately tight, and if the skin is then dried rapidly before a fire or other heat, it will become taut and resonant.

A kettle drum may be made from any concave

body which has a smooth edge and which is solid enough to reflect sound vibrations: a chopping bowl, the half of a cocoanut shell that has been sawed in two, a china or earthenware bowl, a flower-pot, bucket, etc. Since the cord that holds the skin in place cannot pass alternately from one end to the other, some other way of holding it on tightly must be devised. If thumb tacks cannot be used, as in the case of crockery and cocoanut shells, a net work of cord may be made and drawn tightly around the smaller part of the concave body (see Figure 1).

The decoration of the drum is not to be overlooked, for it gives the child an opportunity to express his artistic feeling in design and color upon something he will use, and to experience a real correlation of two great arts. His feeling for rhythm may be cultivated in beautifying his drum as well as in using it.

The marimba is such an interesting and easy instrument to make that any child who has access to some smooth strips of wood, a saw and a plane, a gimlet, a few small nails and a strip of thick cloth can make one at home. White wood or poplar is best, though pine will do. A bar of wood about twelve or fourteen inches long, one and a half

inches wide, and three fourths of an inch thick is a good size to start with. Lift it with two fingers about one fourth of its length from one end, and strike it in the middle with a wooden stick or mallet. It will give a musical sound which one may easily match with the voice. This may be used as the keynote of the instrument, or its pitch may be changed and brought into unison with another note, if some other instrument is to be played with it. If its tone is too low, it may be raised by sawing off one end and making the stick shorter. If it is too high, plane one of the flat sides until the tone is sufficiently lowered. Let the child find out by experiment just how much must be sawed off or planed. Another bar a little shorter (but of the same width and thickness) may be tuned in the same way for the second note of the scale, and so on for as many notes as the child wishes for his instrument. The less he is told and the more he finds out by experiment, the better for him and the more he will enjoy the process.

When the notes are all tuned, he must find a board long enough and wide enough to use as a base to rest all of the notes on, leaving about a half-inch space between every two adjacent ones. If he places these wooden bars flat upon the board,

he will find that their tones are dead and unmusical, not at all like their sounds when he held them lightly in two fingers and struck them. Something must be stopping the vibrations. Now it happens that when a bar of wood is struck it vibrates in segments, and there are points in it where it may rest or be touched without interfering with those vibrations. These points are about one fourth of its length from each end, and are called nodal points. (The child may locate them by tapping the bar when it is covered with fine sawdust, and watching to see where the sawdust collects as the quietest place to rest.) If some way can be devised to support the bar at those points only, it will be free to vibrate and produce a clearer tone. Two very narrow strips nailed or glued to the big board will serve this purpose, but they must be placed at the proper angle to support all the bars at their nodal points. Since the bars are of graduated lengths, the bar with the lowest note being much longer than the bar producing the highest note, the two supporting strips will of course have to be placed further apart at one end than at the other. If these supporting strips are covered with felt or other thick cloth, the sound will be better. Can the child see the reason for this?

After the nodal points are located and the covered strips in place, the wooden bars must now be fixed in position so they will not bounce out of place when they are struck. The simplest method I have found is to bore gimlet holes through the wooden bars at their nodal points (at one end is all that is necessary) and drive tiny nails into the supporting strip, so that when the bars are in place the nails stand in the gimlet holes and keep the bars from falling off. The nails must not fit tightly in the gimlet holes. Can the child tell why? If desired, the wooden bars may be stained (paint or varnish would affect the tone of the wood) and the base board may be decorated in any way the child wishes.

A block of pine or other wood about an inch thick may be whittled into a round ball, a hole bored in it, a stick glued into the hole for a handle, and a mallet is ready to use. The mallet must strike the bars in the middle, between the two supporting strips.

A six-note marimba is a very practical size for a small child to make, and there are many six-note songs he can easily play; *London Bridge*, for instance, *Lavender's Blue*, and *Twinkle, Twinkle, Little Star*. If there are several children in the



42. After all, the Modern Cello is Not so Far Removed from its Ancestor the Monochord

family, each child may make one, and if these marimbas are tuned in unison and played together, they may contribute much pleasure in the family circle. They can give the four- and five-year-olds, as well as those in their teens, valuable experiences in Chamber Music and ensemble playing, all without special lessons from a professional music teacher, the director being some member of the family.

One of the simplest of home-made instruments is a set of pipes of Pan. Before making the instrument, the child will be interested to hear the story of Pan, of his love for the beautiful nymph, Syrinx; how she fled at his approach; how he pursued; and how she was changed into a cluster of reeds by the side of the river just as he was about to overtake her. His discovery of the tone made by his breath passing over the reeds that had been broken by his grasp, and his invention of the musical pipes as consolation for the lost Syrinx, all seem real to the children who find growing reeds, cut them, and make them into pipes which they can play.

Every child should have the experience of making and using this simple little instrument, and I believe that almost any mother will be able to find something which may serve as material to use in its

making. If the stem of the Japanese fleece flower is not to be had, then elder branches, the bark of willow branches (in the spring only), rushes, or anything that grows with hollow stems will do. Small cornstalks may be used if the pith is pushed out or burned out with a hot rod. If none of these are available, the same type of instrument may be made of test tubes, tall slender bottles, or even rolls of stiff paper.

Most children know how to make a sound by blowing across a hollow tube that is closed at one end. Those who do not may find out by experiment. The tube or reed must be held straight up, pressed lightly against the chin with the open end of the reed touching the lower lip. Then make a small opening in the lips just over the pipe, and while blowing directly across this open end, whisper distinctly the word "two." If a musical sound does not result, shift the pipe a little lower or higher and try it again. The proper position of the pipe will be found without much difficulty, but a little practice is usually needed to produce a full, clear tone and it is well to acquire this before attempting to tune a series of pipes. If one blows too hard the tone will be shrill.

In making this instrument, two things are to be

remembered: the pipes must be closed at the bottom, and the pitch of each pipe must be regulated by the length of the hollow part. The longest reed will give the lowest tone (which the child should discover for himself), and the maker must also find by experiment how much to cut off in order to raise the tone to any desired pitch. Most hard reeds may be held in a vise and cut with a saw. When the pitch is almost high enough, the reed may be sandpapered into tune and the risk of cutting off too much is thereby lessened. In case glass or metal tubes are used, the length of the hollow cavity may be shortened by putting water or sand in them. If rolls of paper are used, the lower ends may be closed with paraffine, but there must not be even the tiniest leak.

Three pipes will be enough for the young child's first attempt, and more may be added as soon as his proficiency in the use of three pipes justifies a wider range. Upon these three pipes he may play the three-note melodies given in Chapter VII. The pipes should be tied together in two places to hold them straight. (See Figure 9.) Do not be alarmed if the blowing causes dizziness; it usually does until the piper learns to play with less effort and less waste of breath.

Part-playing with pipes may begin as soon as two children in the family know the same three-note melody, and one of them has a set of five pipes tuned accurately to the first five notes of the major scale, and another child has three pipes exactly in tune with the three lower notes of the five-note set. The owner of the five-note set may play the three-note melody on pipes number three, four and five, while the other child plays it on numbers one, two and three, thus producing two-part harmonies. If the pipes are tuned to notes of the piano, and if mother can accompany the pipers, the effect may be very delightful and tend to stimulate the children to higher musical achievement.

The children may also be interested to know how this instrument has developed from its simple beginnings; that through ages of careful experiment the hollow reed has been made to produce sounds that are more and more beautiful; that the great pipe organs that stand in our most magnificent churches to-day, with their rows of manuals, stops and pedals, their hundreds of pipes producing musical sounds of every degree of power and of every imaginable quality, are in reality, only highly developed pipes of Pan.

The mother who has read Chapter IV will doubt-



43. Bobby and Jane Build "Pig-pens" to Music

less be able to find trumpet materials for her children and direct their experiments until they acquire a trumpet tone. A little lip practice may not be amiss in the beginning. Most children discover in babyhood how to make a noise by blowing through lightly closed, fluttering lips. This motion applied to lips that are tightly closed except for a small opening in the center, produces a louder sound. When the breath is forced through the small aperture, it causes those tiny parts of the lips to flutter after the manner of a double reed. The child should first make this sound with his lips until he is sure of it, then hold the hollow reed or other trumpet to the lips, as shown in Figure 10, and repeat the sound with the fluttering part of his lips inside the reed. Let him experiment until he produces a full, vibrant, and steady tone of definite pitch. The lowest tone that the reed will produce is its true or fundamental tone; the others are overtones. A little practice will enable the child to blow the fundamental tone without letting it lapse into the overtones. One who plays the bugle will probably be able to blow bugle tones on the trumpet by purposely making use of the overtones.

If the trumpet is a reed with practically the same diameter for its entire length (as the one in Figure

10), holes may be bored or burned in it which enable one to play a melody very easily. A round hole as large as can be conveniently covered by the finger, placed about one eighth of the reed's length from the lower end, will allow the trumpet to yield a tone one step above the fundamental. A trial hole may be made, and if the note it yields is not accurate, it may be filled with paraffine or wax and another hole may be made. The placing of these holes is best learned by experiment, for the child loves to make his own discoveries. He will probably discover that the size of the hole, as well as its position, has an effect on the tone. A second hole placed not quite one eighth of the reed's entire length above the first hole will yield, when both holes are open, a note which is a major third above the fundamental. The trumpet now has the capacity for a three-note melody, and if the child is familiar with several such melodies and will improvise others, this simple hollow reed will afford him some variety in musical expression. If a third note is added for the fourth note of the scale, the distance between the second and third holes should be less than the distance between the first and second holes, since number four of the major scale is only a half-step higher than number three.

The parent who is guiding the constructive efforts of children in Creative Music will be able without further suggestions, to make many, if not all the instruments described in Chapter IV,—for instance, the squash-leaf oboe, the Chinese tche, primitive harps and kins and banjos, and perhaps others which I have not mentioned. A study of the photographs may also be helpful. However, I will describe in detail the construction of the box lyre, as a type of simple stringed instrument which any child may make at home.

The two main things in this instrument are a strong frame supporting a number of strings, and a box resonator to intensify the sound of the strings. First procure a cigar-box, or else make a box with a top of thin wood. Cut a hole in this top (see Figure 44). It is through this hole that the sound waves enter the box and become intensified. The top must then be put aside until the frame is in place. A frame of strong wood may now be built around the box to support the strings. The side pieces may be as long as the maker desires for the length of his strings, and the cross pieces at the top must extend fully across both side pieces. The joints had best be strengthened with long screws so that the pull of many tight strings will not

weaken the joints. Bore as many holes in the top cross piece as you will need for strings. Make pegs that fit tightly into these holes and then bore tiny holes through these pegs near the top. If you have no gimlet that is small enough, holes may be burned through the pegs with the red-hot end of a wire or hairpin. These tiny holes are for attaching the strings to the pegs. If the frame is made to fit the box, it may now be glued into place as in Figure 44, and the top glued on. It is best to set the box a little back in its frame, so that the top of the box lacks about one fourth of an inch of being on a level with the frame. Thus no bridges will be required to keep the strings from rattling against the box. Now drive small screws or nails into the bottom cross piece, tie the strings to these screws, and then, drawing the strings across the lyre, fasten them to the pegs at the top, and turn the pegs to regulate the tension of the strings.

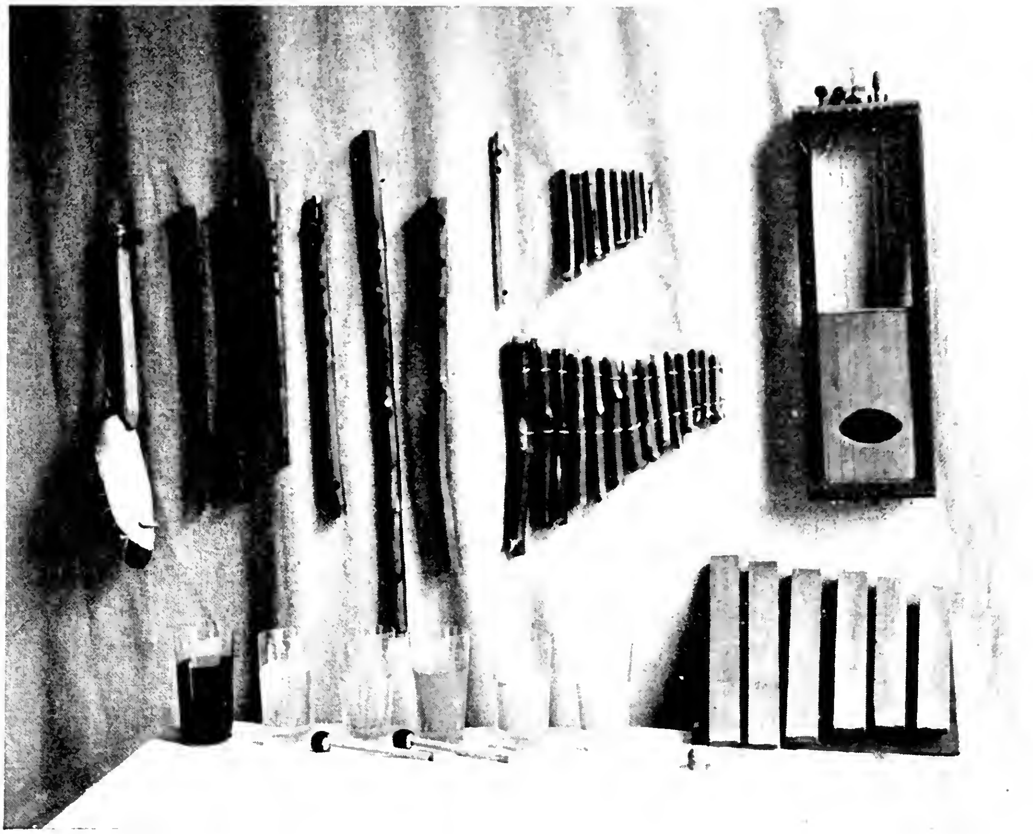
Wire strings or gut strings, or even silk strings twisted and dipped into wax, will answer. Strings of graduated sizes should be used, the heaviest ones, of course, being used for the lowest notes. If a rattle is heard in the sound of the string, it may be because its vibrations are not cut off sharply at the edge of the cross piece, and it

may be vibrating against a part of that piece of wood. In such case, a piece of stiff wire may be slipped under the strings to lift them from the wood, or else the wood may be trimmed to a sharp edge which leaves no other contact with the string. The lyre may be decorated according to the child's ideas. It is held in the left arm, as shown in Figure 26, and played with the thumb and fingers of the right hand. In case wire strings have been used, the quill end of a chicken feather or other plectrum may be used for plucking the strings, if so desired.

If the above instruments are made at home under the parents' guidance, these experiences will probably lay the foundation for further experiments and give the child an impetus toward musical investigation and growth. If the use of them is encouraged, or even patiently tolerated, it will probably help to form the music making habit.

If there is a word one could speak that would make us *really want* to forget our cares for a time at the end of the day and bring the family together for a little home-made music, pray let us find the magic word and shout it from the housetops! No matter if the music is crude—it is the *habit* that counts most of all, for the children and

for ourselves as well. To "put on a few records" does not suffice; these have a valuable service to yield in our family life and education, but they cannot take the place of actual experiences in making music. Not only are the cares of the day forgotten when we play and sing together, but the family ties are strengthened and associations are built up which serve us well all through life. If a child has feelings of anger toward another it is almost impossible for him to cherish that anger through the hearty singing of several songs together, especially if the songs be jolly ones. Here is an opportunity for parents to study the psychology of music in reference to their children, and to select songs for special effects upon them. Whether in singing or in playing, it is undoubtedly true that the family custom of making harmonious sounds together has an enormous value in regulating family nerves and harmonizing family relations; in giving children musical experiences from babyhood that tend to make them truly musical; and in establishing reactions, attitudes, and tendencies toward music and toward other people that will make their whole lives richer and more complete.



44. Simple Instruments that Children can Make at Home



45. Suggestions for Home-Made Drums

CHAPTER XII

SUGGESTIONS TO TEACHERS

A DETAILED report of each lesson or a list of all the steps in my work would be impossible in these pages; neither is it necessary. I have tried to make my beliefs and working principles clear; have stated my aims, suggested the material, and have explained my plan of using that material in the hope that teachers and parents who wished to make practical use of it would be able to do so. Doubtless many will be able, without further suggestion, to incorporate into their teaching as many of the ideas herein stated as have appealed to them. It is impossible to tell the true teacher just how she is to do anything, for each teacher must have her own technique. When once she has thoroughly acquired her subject matter, it must then stand at the disposal of her wisdom and circumstances and of the child's nature and capacity. The facts are merely the storehouse to draw from as the child himself reaches for knowledge; the teacher's part

being mainly to stimulate and guide his reaching. The teacher who develops constructive tendencies in children is more useful than one who stores his mind with facts.

The true compensation of a teacher is the personal joy she feels in seeing the child's powers unfold and grow under her guidance. There are thrilling moments in her life when the child's reaction to her efforts has resulted in the creation of something beautiful. The realization that through her stimulation the child did it alone, gives her a thrill that she would not exchange for any other satisfaction the world has to offer. There is a far greater joy in enabling a child to create something than in creating it one's self, for then one has the gratification of feeling a constructive power in the mental development of human beings rather than power over mere materials. The wish for power, which is so fundamental a part of our make-up, is thus gratified in a way that is most helpful to society, and the teacher finds a compensation that none can fully understand except those who have experienced it.

Many teachers are more interested in the pupils who have much talent than in those who have little. But there is a particular satisfaction in dealing

with difficult situations, in working out different ways of stimulating a weak power to stronger reaction, and in exploring to find out hidden power. One of the greatest rewards in teaching is in seeing an untalented child's face glow with the realization of accomplishment, or in hearing him say, perhaps, "Oh, how beautiful! I didn't know I could do that!" The teacher's compensation is in seeing the *effect on the child*, not in the intrinsic beauty of the thing he has created.

To begin with, then, the teacher must teach, not from an extrinsic motive, but for the personal gratification that comes in the very process of teaching. Then she must formulate her aims toward the child, select the material she will use, decide on the method or plan she will follow in using that material, and work out her own technique in adapting her plan to each child.

Aims.—Broadly speaking, perhaps the general aim of any musical educator should be to lead the child really to *experience* music. But as phases of her general aim, the teacher will also have definite aims as to the special experiences her pupils shall have, the knowledge they shall gain, the powers of thought which they shall develop, the skills they shall acquire, the habits they shall cultivate,

the attitudes they shall establish, the artistic results they shall obtain, and the social tendencies they shall build up, as well as the especial needs of individual children. With these purposes in mind, she will carefully select her material.

Material.—If the child's experiences are to be constructive and real experiences, they must involve material that the child can comprehend and handle easily. This at once excludes the piano and violin for most young children and implies instruments and musical literature of the child's own level. In order that those experiences may grow and flourish they must be rooted in the elemental ground of his nature. So, first of all, the material must be suited to the child's powers. There must also be variety in material that the child's interest may be refreshed before it tires, and that his experiences may be correlated with many things. The material must also be such as gives experiences in beauty and supplies for him always growing ideals of beauty.

Method.—The material may be ever so fine and yet be spoiled by the bad use of it. One must have a sound educational principle underlying one's plan of using material. For example, the basic principle underlying one's work may be that

we "learn by doing," and upon that principle one may build many plans of procedure. Although these working plans and principles are vital to constructive teaching, I think many teachers have overrated the necessity of following a certain line of thought and procedure. To follow rigidly any fixed series of ideas or lessons (even one's own) is destructive to the teacher's initiative, and the teacher, of all others, has great need for all her initiative and resourcefulness. Her method does not have to be arbitrary, neither are inventions and devices necessary, if the material is adequate and interesting. I doubt not, however, that there has been a real reason for the devising of so many "methods" in music teaching, namely, the need to sustain the child's interest in something that is naturally unsuited to his capacity. But if the material set before him is of the kind to strike the elemental note in his nature and keep it sounding all the way from his instincts up to his fullest capacity of cultural development, his own natural craving for it will supply the interest, even if the teacher follows no other method than the child's own, and any one of a dozen methods may be equally effective if the basic principle is right. The very nature of music is such, and man's relation to it is so close, that it

seems rather inappropriate to let anything so formal as a fixed method stand between the little child and his experiences in so elemental an art.

The deciding questions in selecting a method, it seems to me, should be—Does this plan stimulate and gratify, in a natural way, the child's own creative impulse? Does it draw something out of the child—not impose something upon him? Is it based on the recognition of the child's natural and acquired responses?

Technique.—The watchword for the teacher's technique should be to keep the child interested in the thing he is doing for the sake of the thing itself. To do this she must establish the right atmosphere in which he may work; she must see that what he attempts is not beyond his power, yet presents some difficulty for him to overcome, and will give him pleasure when it is successfully done.

The technique which one employs in applying method to material depends upon the experience, wisdom, skill, and personality of the teacher. She may formulate and definitely state her method but she cannot state her technique, because it varies always with varying circumstances, and it cannot be set forth on paper. And yet I would consider

the technique of the music teacher as even more important than the method. The "way she does it" counts more in the teaching of music than in the teaching of anything else I know.

Results.—In general, if the above conditions are met; if the material is suited to the child, is varied and leading to beauty; if the method stimulates and exercises naturally the child's creative power, and if the drive behind his work is an absorbing interest in the thing itself,—then the educator's aim will be fulfilled and the child will have real and constructive musical experiences.

It is impossible to tabulate all the results of one's teaching, or to know all the effects of these musical experiences upon the child. The music teacher has dealt not only with the child's intellect and his body—with his power to think and to do—but she has also dealt very largely with his power to feel. It is easy to test one's handiwork, and educators have devised means for testing intellectual growth, but how are we to test a child's emotional development, and who can measure accurately the effect of one's teaching upon the child's power to feel or to aspire? And yet this is perhaps the music teacher's richest realm when she has the power to develop it. The musical feeling

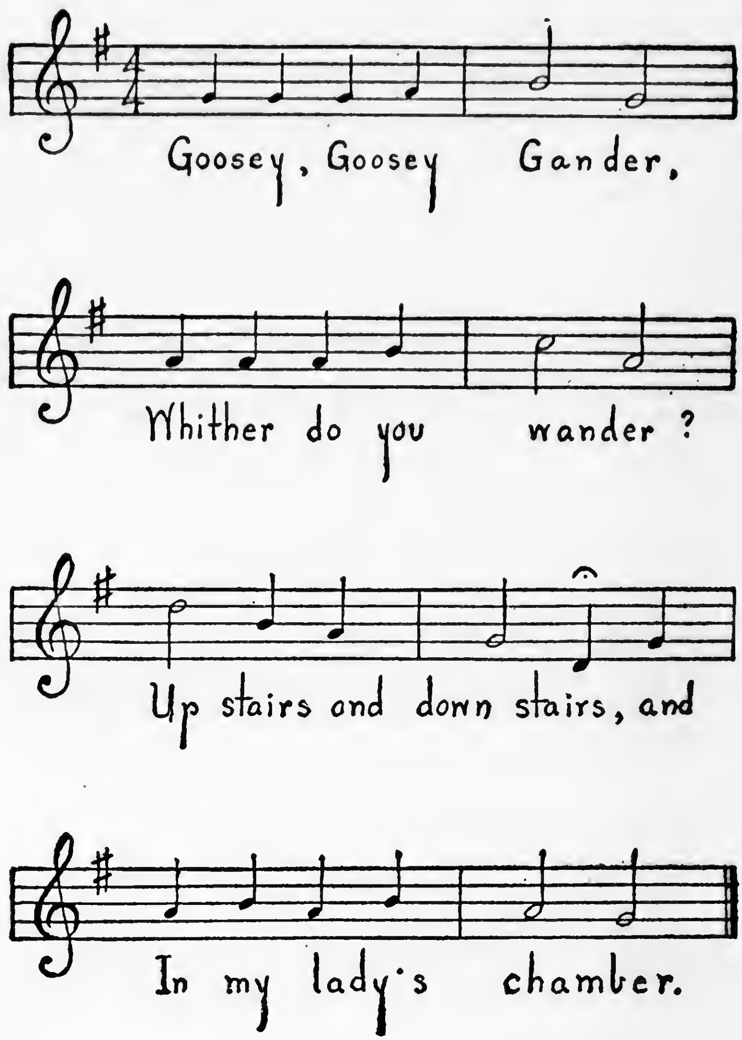
of the child is intangible and evanescent, affecting his entire being, and the teacher who cultivates it most effectively is one whose contact with him comes through those intangible, indescribable, uncatalogued attributes called personality. If she is lacking in personality even though her material and method may be excellent, and the other phases of her technique without definite criticism, she will never be able to build most constructively upon the child's emotions.

The power of music over us from infancy to the grave is so great that those of us who try to establish a closer intimacy between this powerful force and the plastic child, have assumed a serious, even if most joyful undertaking. For "Thus," says Stanley Hall, "in a day when psychologists are realizing with one accord that the feelings are far vaster than the intellect and will, and are more important for health and sanity, it is clear that music teachers more than any other class are charged with the custody and responsibility of the hygiene of the emotional life."

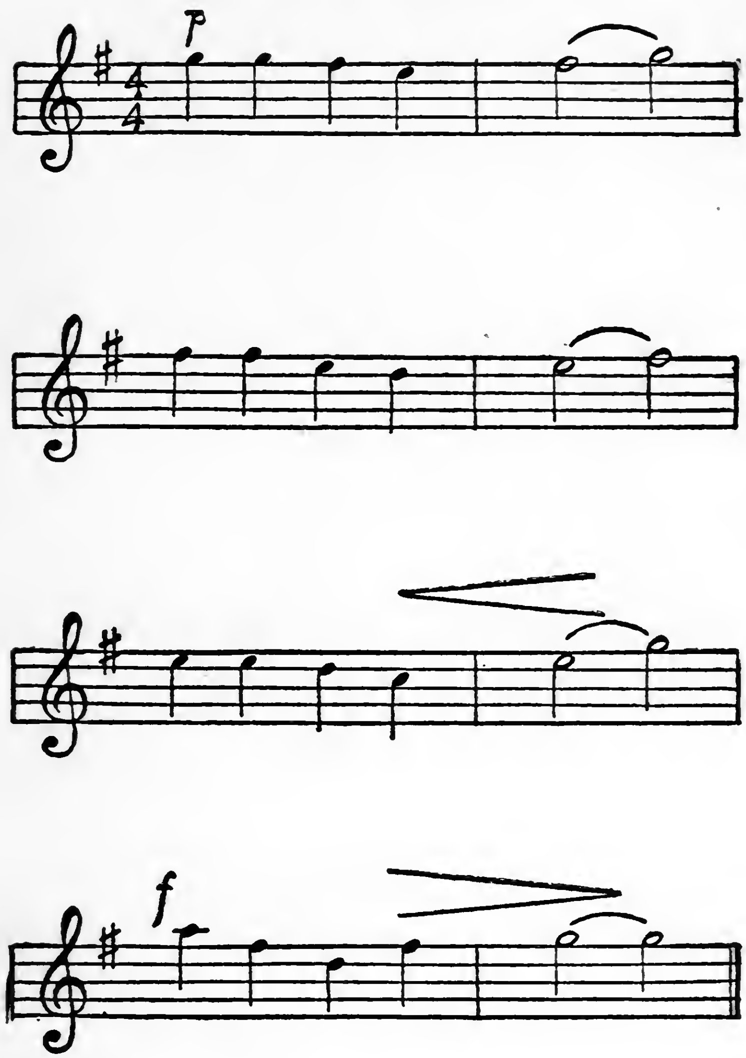
Katharine's Phoebe Bird



Dorianne's Goosey Gander



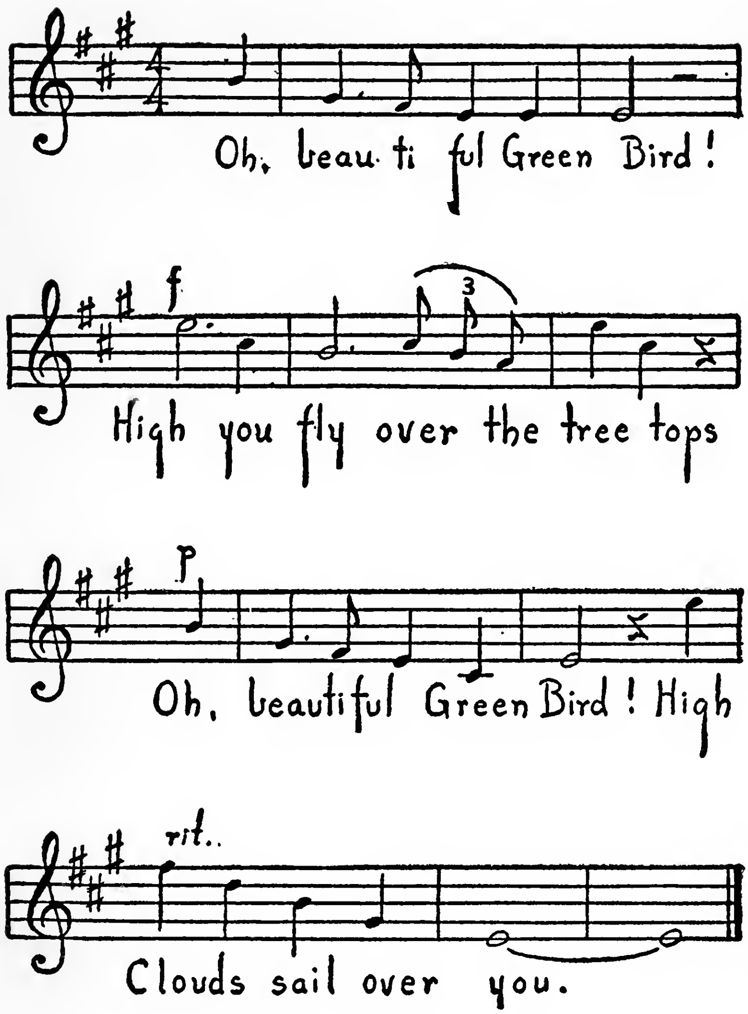
Alva's Harp Improvisation



Jane's Gavotte



Bill's Green Bird

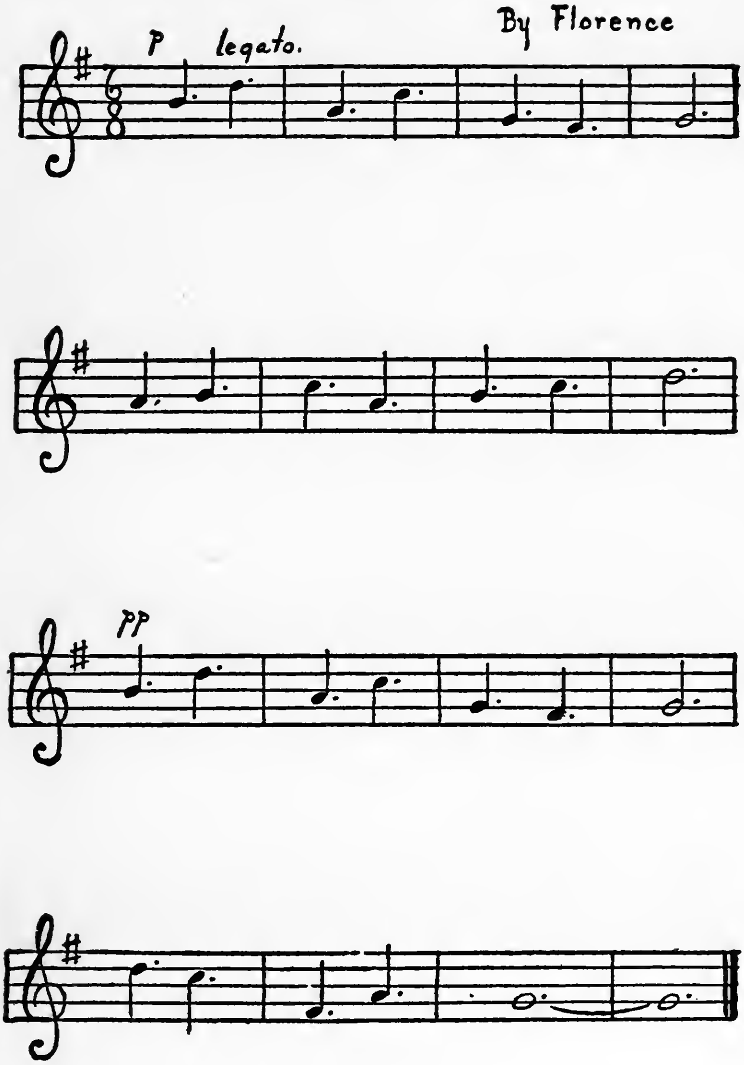


Margaret's Green Bird



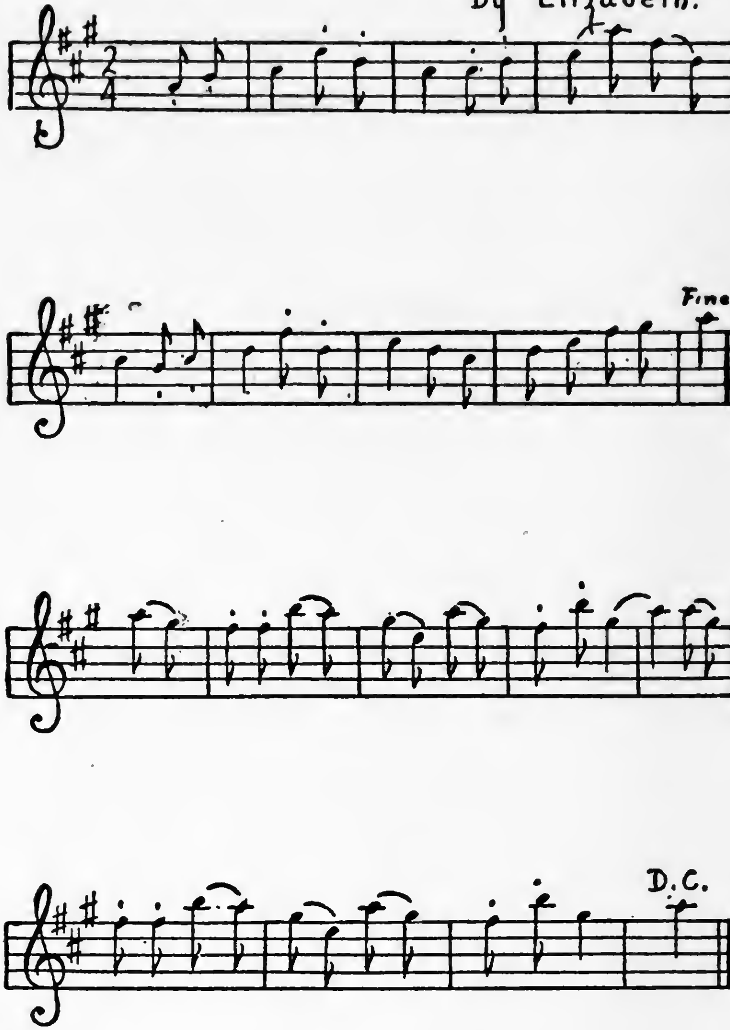
Cradle Song

By Florence



A Dance for the New Fiddle

By Elizabeth.



MUSICAL INSTRUMENTS USED IN THIS WORK

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Most of these may be made at home by the children. The order of the instruments as listed in each class shows, in general, a development from the simple to the complex.

PERCUSSION INSTRUMENTS.

WIND INSTRUMENTS.

STRINGED INSTRUMENTS.

A Selection from the Catalogue of

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